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The NATION'S SCHOOLS

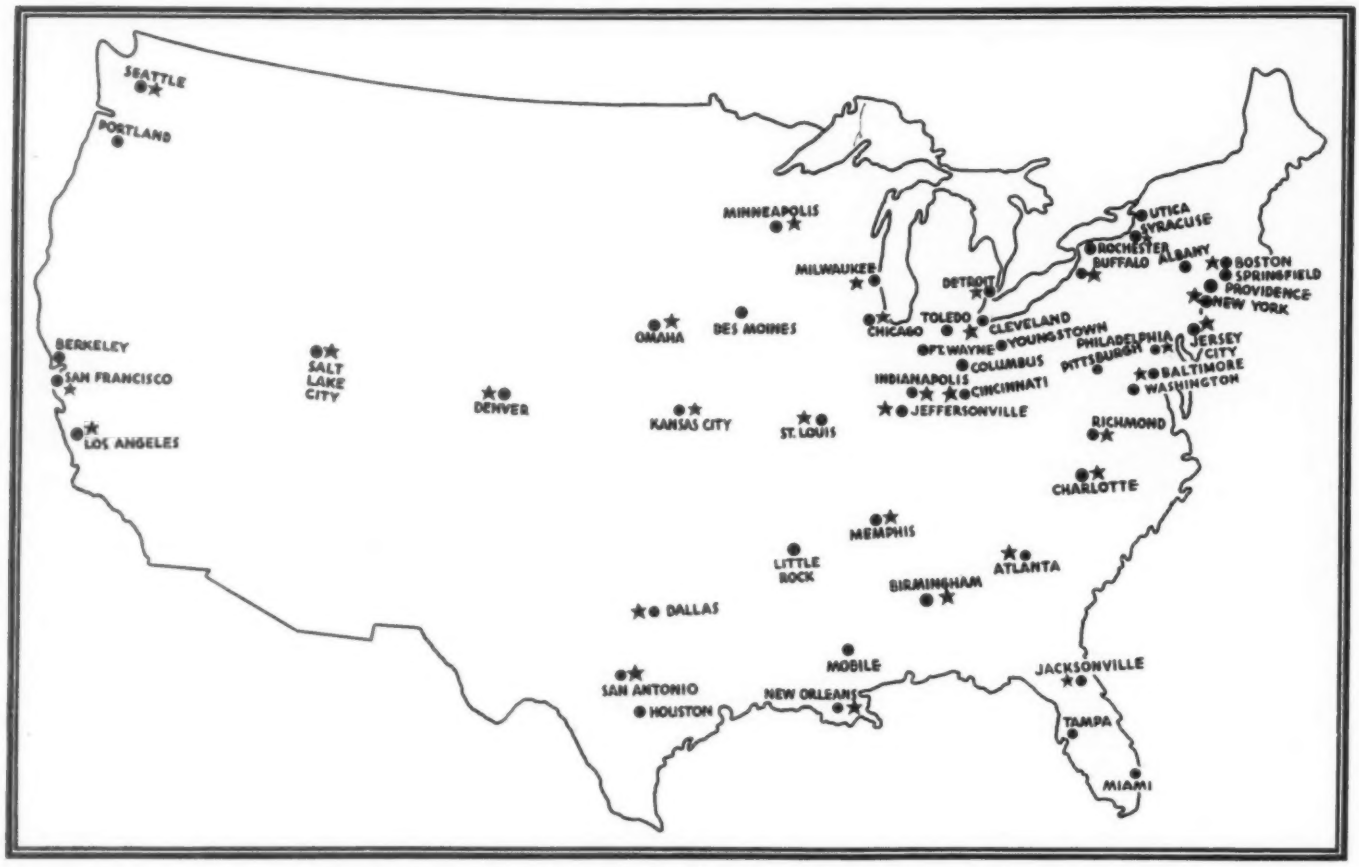
DEVOTED TO THE APPLICATION OF RESEARCH TO THE BUILDING, EQUIPMENT AND ADMINISTRATION OF SCHOOLS

MARCH
1931

VOL. VII
No. 3

Published by THE NATION'S SCHOOLS PUBLISHING CO., *Chicago.*

A Nation-wide Soap and Cleanser Service for Schools



Circles indicate warehouses of Colgate-Palmolive-Peet Co. Stars indicate sales offices.
A nation-wide service at your command!

. . . . ***equipped to supply you promptly with soaps and detergents for every conceivable problem of school cleanliness.***

FROM washing the hands to cleaning floors and woodwork—we have developed scientific soaps for every purpose in school cleanliness—soaps that do the work quicker, better, because they are the result of more than 125 years' soapmaking experience!

These soaps are at your command through a nation-wide service offered by the Colgate-Palmolive-Peet Company. From warehouses located at strategic points, insuring prompt service, your school—every school—can be supplied with the proper soaps and cleansers for every cleaning job.

Our experts at your command. They come and analyze your soap problems thoroughly and completely. A proper cleansing material for each purpose is specified. You receive the benefit of years of research and experience.

Your soap costs reduced

In this way, you get the maximum of good from every dollar you spend for cleaning purposes. We eliminate all uncertainty and waste. Costs are reduced when all your soap transactions are handled by one organization. Valuable time is saved in purchasing, receiving, recording, storing. And money is saved by quantity buying made possible this way.

We will gladly place one of our soap experts at your service. Please write the Colgate-Palmolive-Peet Company, Palmolive Building, Chicago, Illinois.

COLGATE-PALMOLIVE-PEET COMPANY

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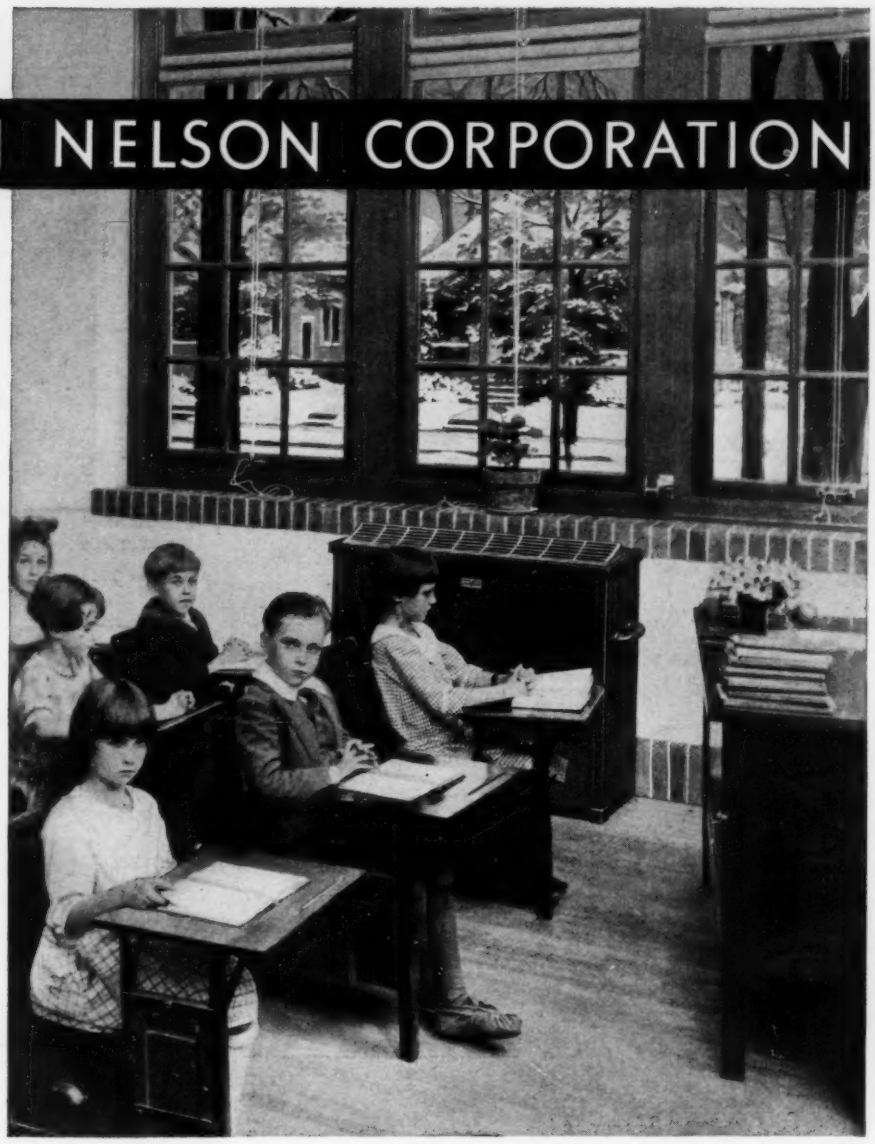
T. H. N. Corp.

THE HERMAN NELSON CORPORATION



Univent Ventilation because of definite results it achieved in the schoolroom, established the popularity of Unit Ventilation. But only the Univent can give Univent Ventilation.

Where the ventilation requirement is: a continuous supply of outdoor air to every pupil in the room, the Univent gives the proper atmospheric conditions in the simplest, most effective and economical manner.

It brings in outdoor air—cleans it, heats it to the right temperature and distributes it throughout the room with gentle air motion but without draft.

Over ten years of Univent Ventilation in schools throughout the country have demonstrated the fact that the architect or engineer who specifies Univent Ventilation is taking no chances.

Write for the book—"Univent Ventilation".

HERMAN NELSON

UNIVENT (TRADE MARK)

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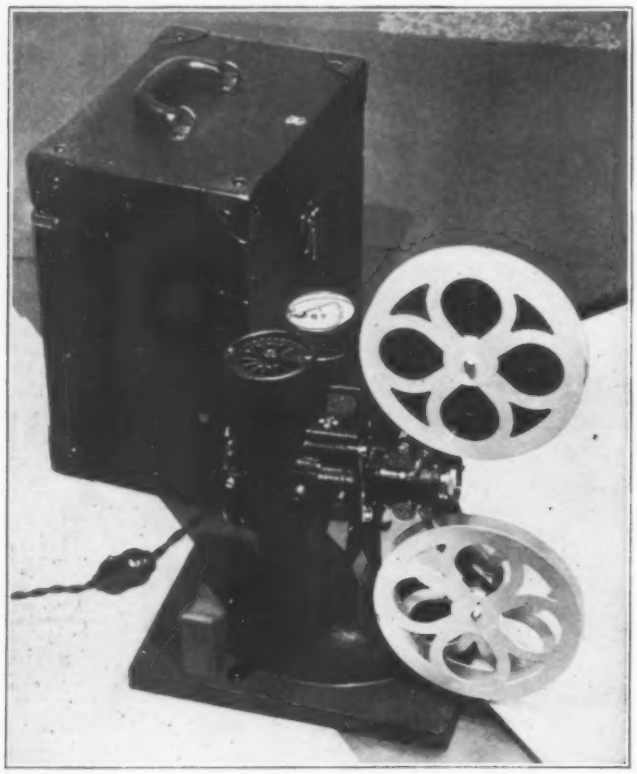
New Brilliance in Schoolroom Movies

...WITH THE FILMO 375 WATT PROJECTOR

The new Filmo 57-GG Projector overcomes the last obstacle to perfect schoolroom projection in its ability to cut through semi-daylight with pictures of brilliant clarity. Few schoolrooms can be sufficiently darkened. Now, with the Filmo 57-GG Projector, light leaks which ordinarily affect projection are of no consequence, for the penetration and illuminating power of this new 375 watt machine give to schoolroom movies a brilliance and depth as far reaching in their benefit as is the absence of flicker which characterizes Filmo movies.

Another advantage quickly appreciated in the Filmo 57-GG Projector is its "carrying power" when used in large halls or auditoriums. Large screens are filled with pictures of excellent visibility and brilliance, for the illumination provided by this new projector is 41% greater than that from a 20 volt or 250 watt 16 mm. light source.



No change, except in illuminating power, is apparent in the Filmo 57-GG Projector over the standard Filmo used so widely by schools and colleges the world over. The same cooling system and safety screen shutter are used. The new Projector operates on either alternating or direct current without the use of auxiliary resistance units.

Other models of Filmo Projectors may be equipped with this 375 watt, 75 volt illumination at nominal cost. The Filmo 57-GG Projector may be had in a 1000 ft. model, showing 40 minutes of pictures without change of reel.

Any Filmo dealer will gladly demonstrate Filmo for your classes. You will observe at first hand the steadiness of Filmo projection and the ease of Filmo operation. Write for complete details on the new Filmo 57-GG Projector and the story of Filmo in schools and colleges.

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The new Filmo 57-GG Projector — offering surpassingly brilliant illumination for class room or auditorium use. Price, $260 and up with handy carrying case which provides extra-wide base for Projector during operation. Other models as low as $198.

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Gentlemen: Please send me full information on the new 375 watt Filmo 57-GG Projector, and a copy of Booklet No. 28, "Filmo Motion Pictures in Visual Education."

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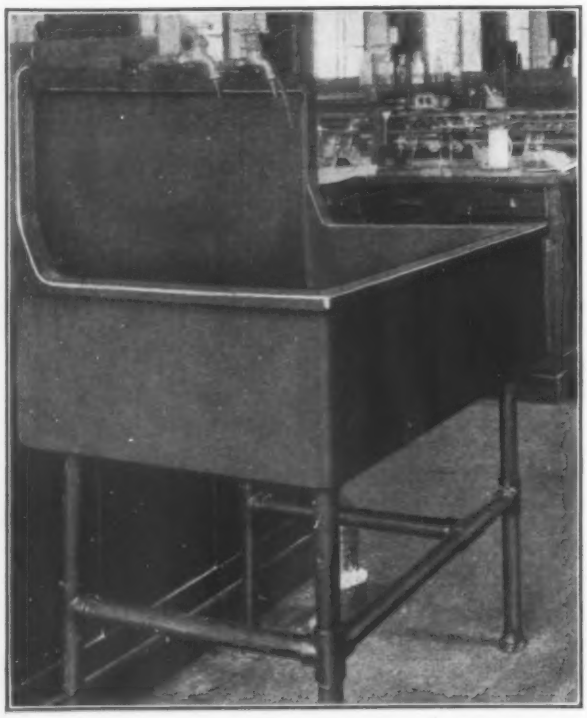

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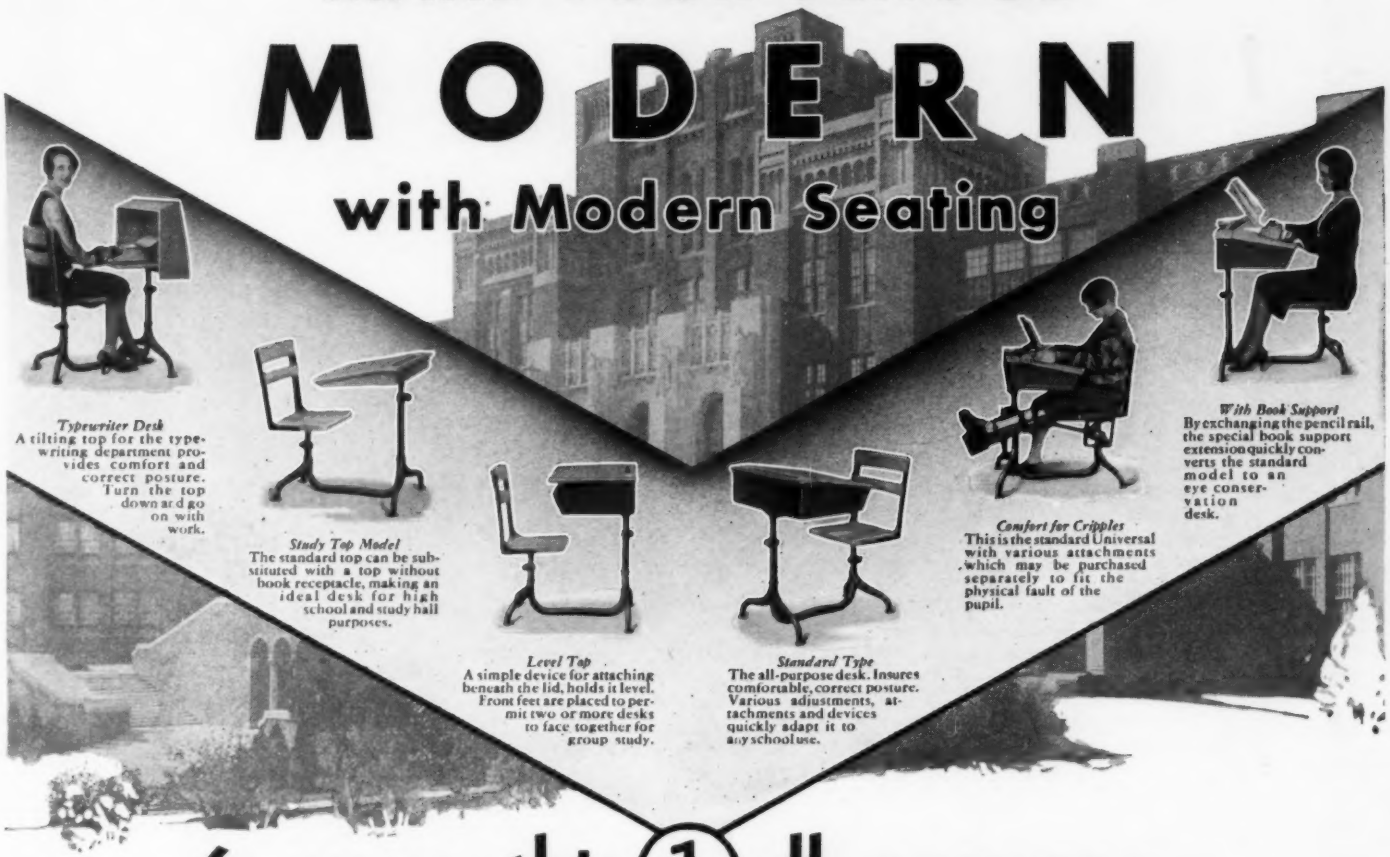
Typewriter Desk
A tilting top for the typewriting department provides comfort and correct posture. Turn the top down and go on with work.
Study Top Model
The standard top can be substituted with a top without book receptacle, making an ideal desk for high school and study hall purposes.
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A simple device for attaching beneath the lid, holds it level. Front feet are placed to permit two or more desks to face together for group study.
Standard Type
The all-purpose desk. Insures comfortable, correct posture. Various adjustments, attachments and devices quickly adapt it to any school use.
Comfort for Cripples
This is the standard Universal with various attachments which may be purchased separately to fit the physical fault of the pupil.
With Book Support
By exchanging the pencil rail, the special book support extension quickly converts the standard model to an eye conservation desk.

6 ways this (1) all-purpose desk can serve in every school

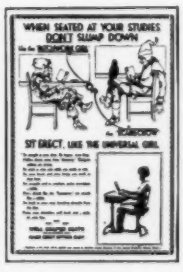
YOUR school is as modern as its equipment. For, after all, pupil-efficiency is proportionate to the efficiency of the desks at which they work.

Today . . . superintendents, principals, and other educational executives know that proper seating is a definite factor in the physical development . . . and therefore in the mental development . . . of every pupil.

American Seating Company school seats are the product of scientific research . . . years of specialized experience . . . in the needs of today's classroom. Our latest product . . . the "American" All-Purpose Universal Desk, is an outstanding example of our contribution to a finer, brighter future for America's school children. With posture-correctness, it incorporates features that are new, distinctive . . . yet immediately recognizable as *superior* in seating for progressive, modern schools.

Free poster on posture

To help remind pupils to always sit erect —to focus their attention on the benefits of correct sitting posture . . . we have prepared an attractive 3 color poster (see illustration) suitable for hanging in the classroom. It measures 17½ inches by 25 inches—so it can be read easily from the back of the room. 60,000 have already been sent to schools the country over . . . are hanging in classrooms, daily reminding pupils to sit erect. Teachers and educators who send in the coupon will be furnished with a poster for each classroom, *free.* Upon request, several authoritative booklets on posture and seating will also be included. Please use the coupon.



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Six features make the "American" Universal the outstanding all-purpose desk of all time.

1 *Book Support*—A special book support extension—quickly converting the standard model to an eye conservation desk.

2 *Level Top*—A simple device attached below the lid holds it at a level. Especially desirable for group study or socialized recitation.

3 *Typewriter Desk*—A tilting top for use in the typewriting department. Turn the top down—and it's set for study or work.

4 *Comfort for Cripples*—Various attachments purchased separately as required, to fit the physical fault of the pupil.

5 *Study Hall Top*—In place of the standard top, a top without book receptacle can be substituted. Ideal for high school and study hall purposes.

6 *Standard Type*—For all 'round school use. As indicated in illustrations, various adjustments, attachments and devices quickly adapt it to any use.

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Name.....

Address.....

Position..... ☐ Number of classrooms
(Indicate here whether you are Superintendent, Principal or Teacher)

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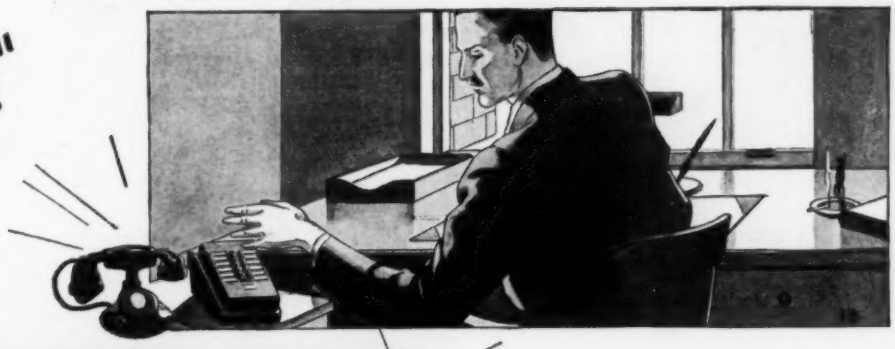
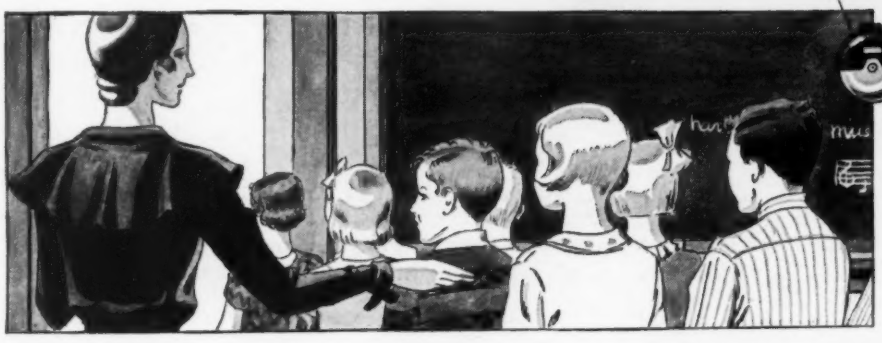
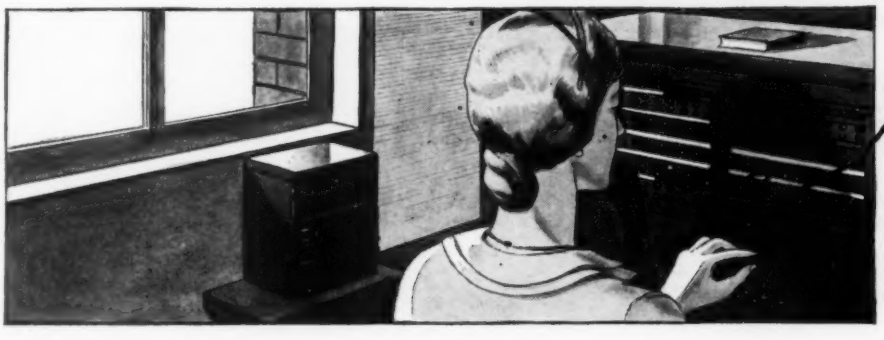




"Fire drill!"

"Classes change!"



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Illustrated: Prose-Maco Wardrobe Installed.

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Veltone is a new and unusual type of resilient floor for schools. It brings you a beauty never before found in any other floor material—yet at the same time offers every practical advantage and every economy that a school could require.

As you can see by the picture, Veltone is an uninterrupted flow of delicately blended colorings. There are no tiles, no mortar lines, no repeats of any kind. When properly laid, Veltone is apparently seamless—an unbroken expanse of mellow color from wall to wall.

Still another charm of Veltone is its variety. Every yard has its own personality—a delightful individuality in color combining and veining. Yet these little differences are never so marked

Continued on next page

Continued from preceding page

that they shout for attention. Veltone is rich—yet always harmonious and restrained.

And that is precisely why Veltone *belongs* in the school building. In a classroom it is cheerful and colorful without giving an "over-decorated" look. In the principal's office, main hall or assembly room, it makes an exceptionally fine-looking floor which adds to the distinction of any style of furnishing.

Veltone is a Sealex Linoleum—made sanitary and easy-to-clean by the Sealex Process. Like all Sealex Linoleums, it is quiet and resiliently comfortable underfoot—and famous for durability.

Another inexpensive way to give an extra touch of distinction to a school floor is to add a Sealex Linsignia. The "Compass" illustrated here is an interesting example of how readily even fairly intricate designs may be executed in Sealex Linoleum. These insets are cut out at our factory and shipped ready for installation. Your Sealex Linsignia may be your own conception—the school monogram or seal —or one of our standard designs.

Write our Architectural Service Department for further information on Veltone or Sealex Linsignia.

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KEARNY · NEW JERSEY

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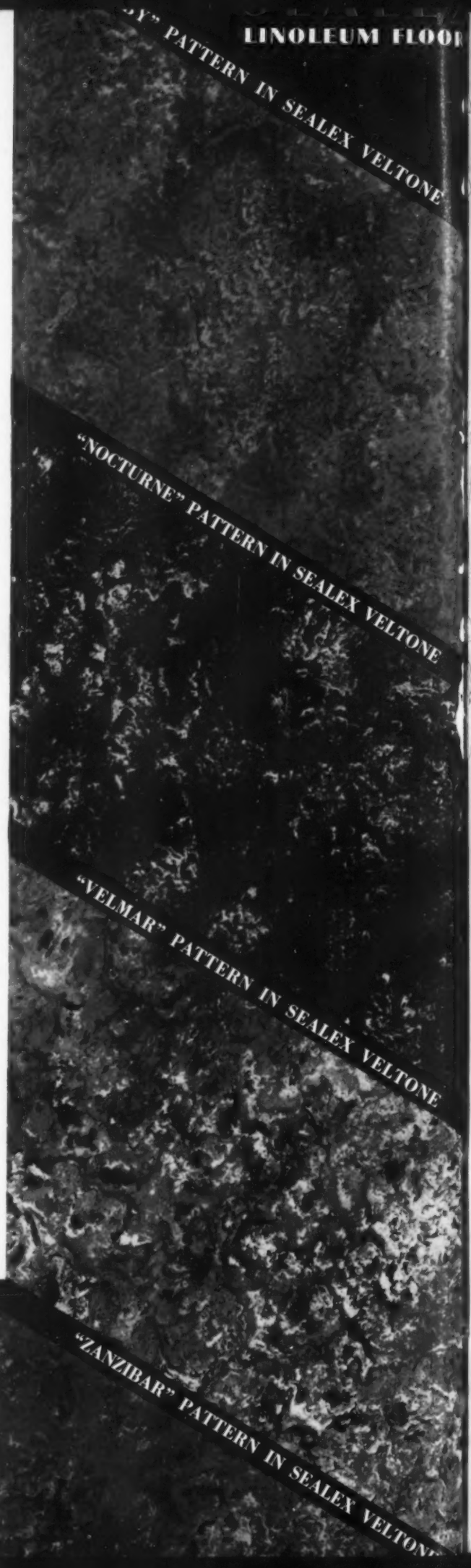
BONDED FLOORS are floors of Sealex Linoleum and Sealex Treadlite Tile backed by a Guaranty Bond issued by U. S. Fidelity & Guaranty Co. They are installed by Authorized Contractors located in principal cities


LINOLEUM FLOOR
"NOCTURNE" PATTERN IN SEALEX VELTONE
"VELMAR" PATTERN IN SEALEX VELTONE
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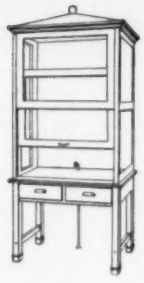

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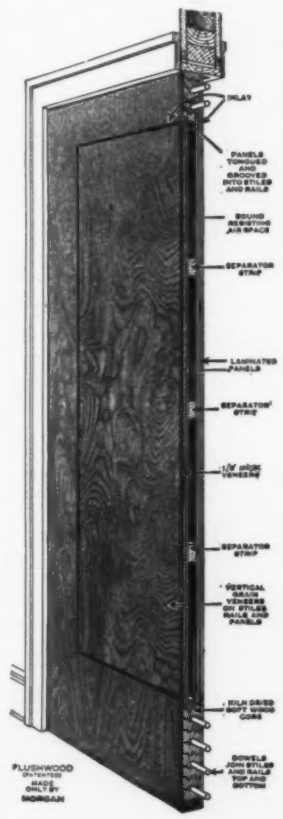

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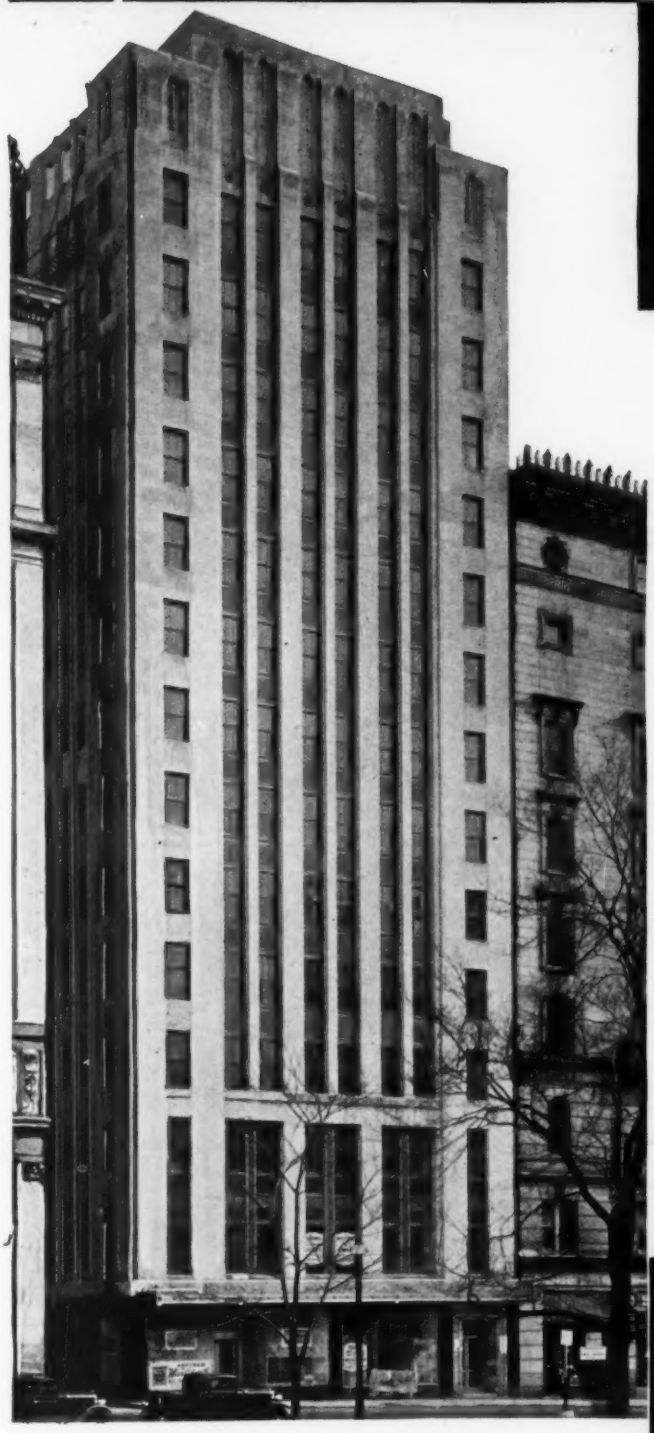

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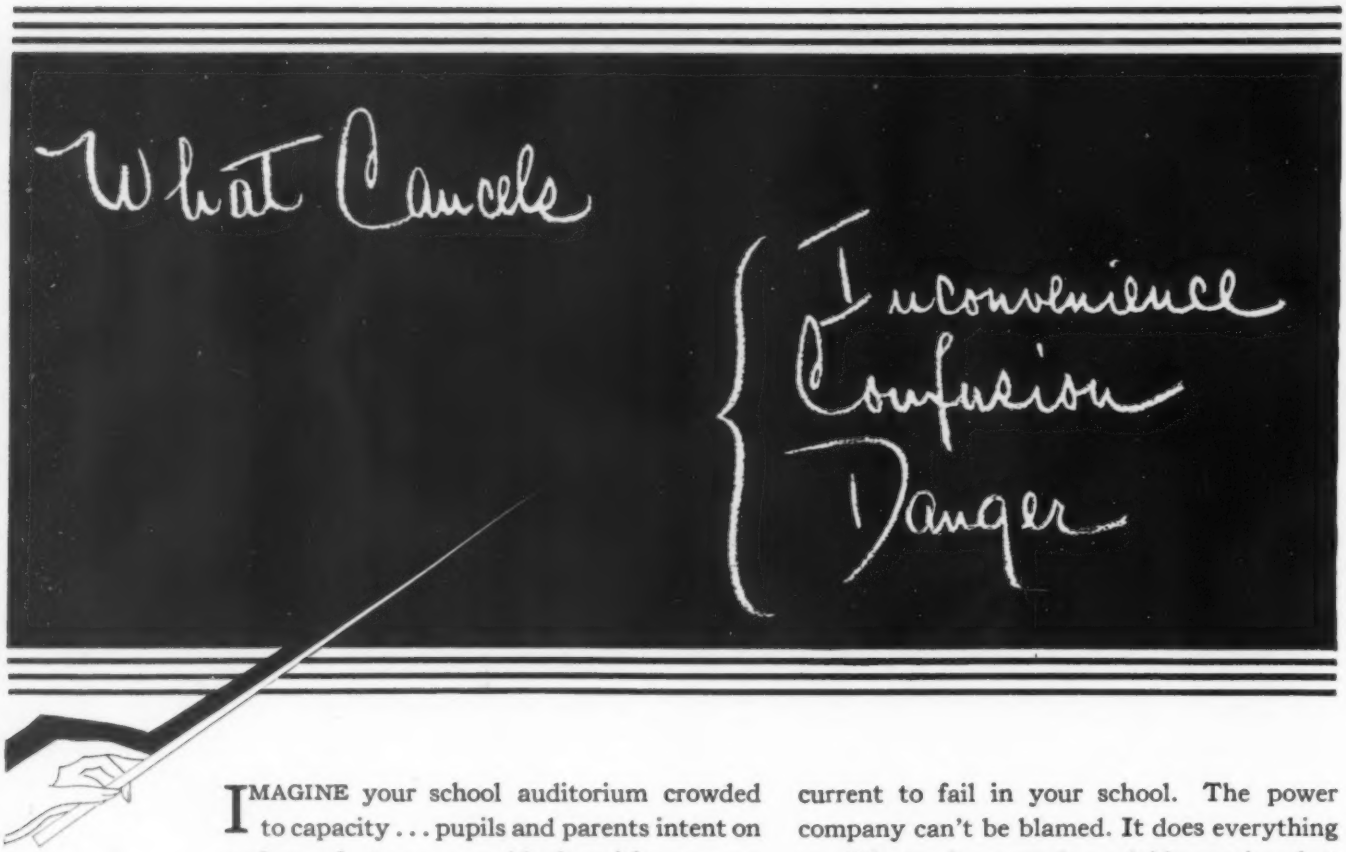

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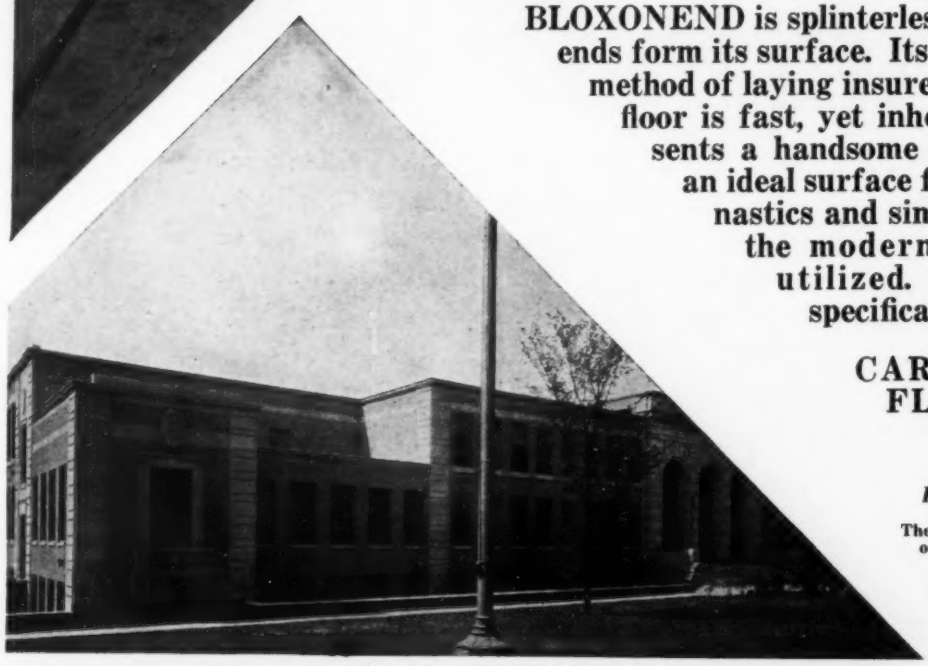

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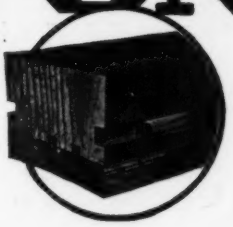
BLOX-ON-END FLOORING



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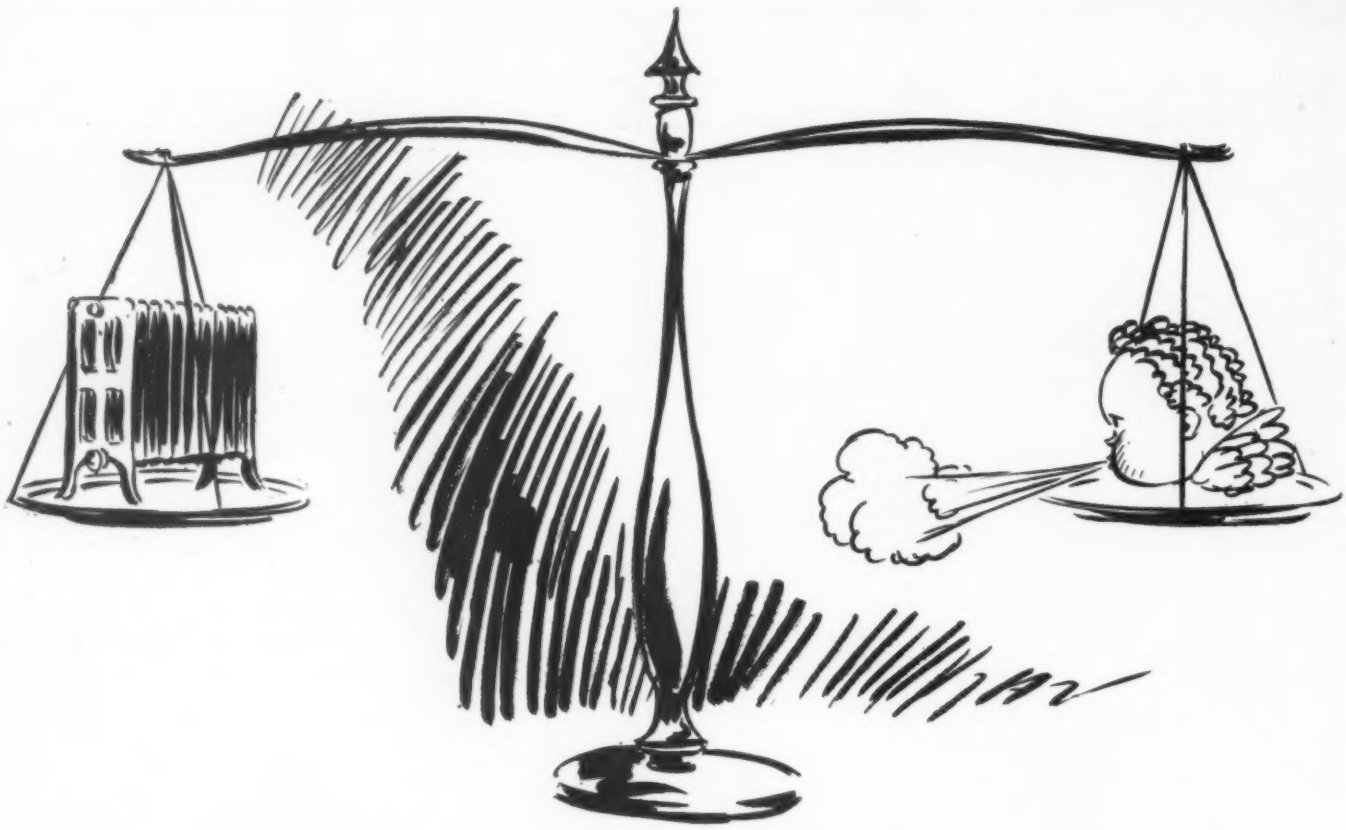

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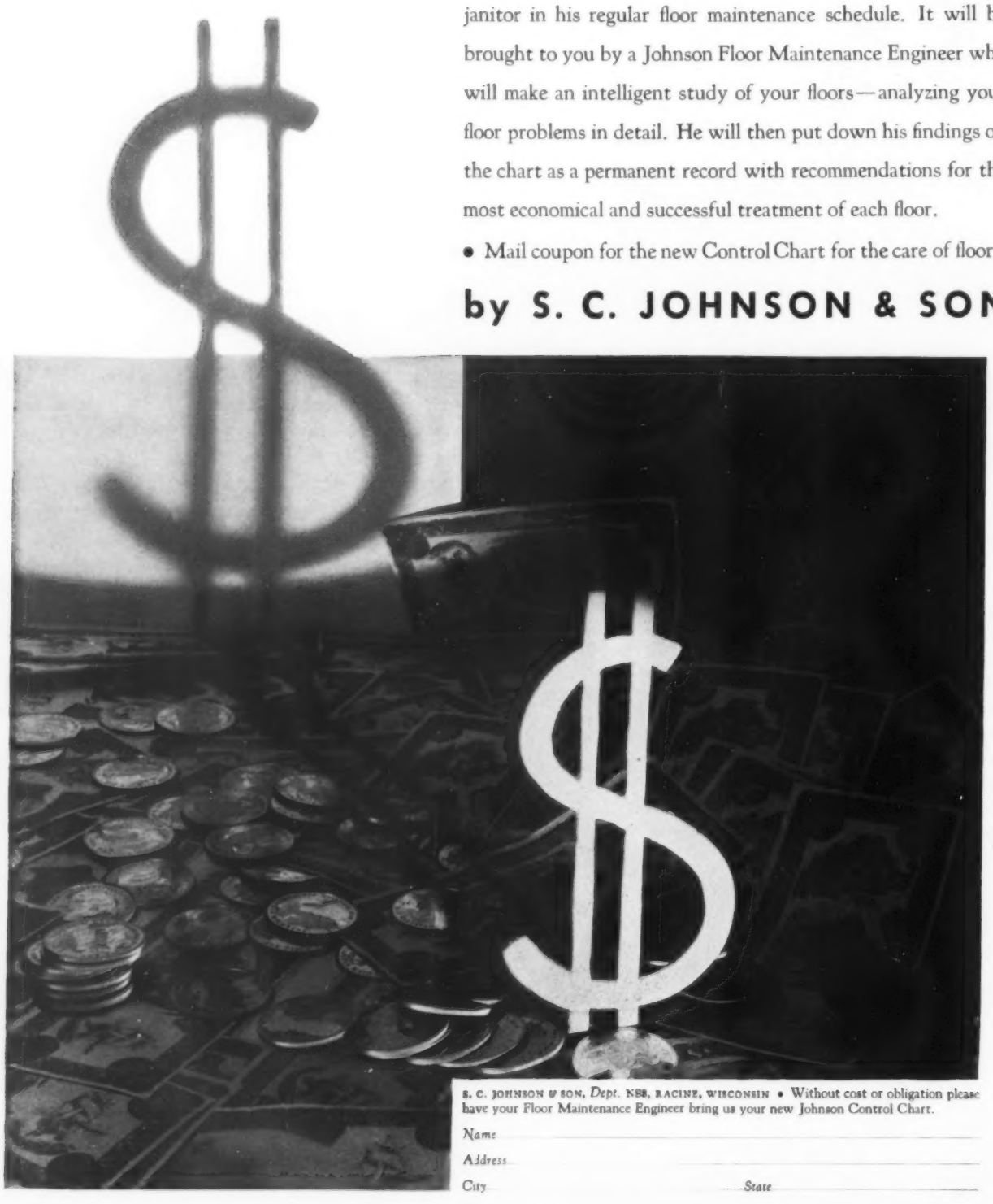

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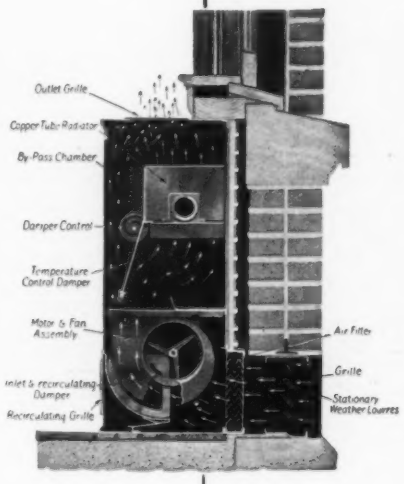

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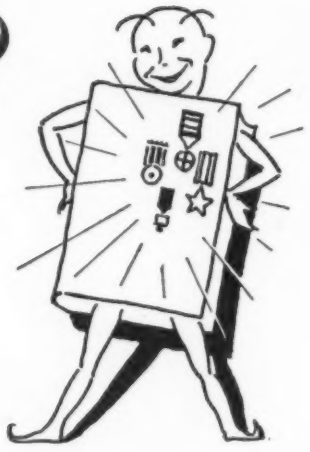

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VOLUME VII MARCH, 1931 NUMBER 3

Clarifying the Aims of Rural School Service

An analysis of social-economic changes that have occurred during the past twenty years and how they affect rural life and increase the responsibilities of district superintendents

By J. CAYCE MORRISON, Assistant Commissioner for Elementary Education,
State Education Department, Albany, N. Y.

THE office of district superintendent of schools in New York State was created by a legislative act in 1910, which became effective January 1, 1912. This legislation was the result of five years of intensive study and discussion among the groups most interested and without question was effected by the social-economic conditions then dominant in the rural life of the state.*

The office of district superintendent has continued during the twenty-year period with practically no change from the legislative standpoint. Yet social and economic conditions have changed materially. It is pertinent to analyze these factors as a basis for determining the direction that should be given the work of the district superintendent during the next decade.

For the year ending July, 1929, the 208 district superintendents had general supervision of 19,199 teachers and 423,698 pupils.[1] This represents 46 per cent of the teachers and 43 per cent of all the pupils of the public schools of the state outside Greater New York. These figures in themselves indicate in some measure the influence exercised by district superintendents. The figures grow more significant when we realize that they represent a larger number of teachers than are to be found in any one of thirty-four different states of the Union[2] and more pupils than there are persons in any one of the following states: Arizona, Delaware, Nevada, New Mexico, Vermont and Wyoming.

"In 1910 there were completed and under contract approximately 2,800 miles of highway of the state system, in 1920 a little more than 8,300 miles and in 1930, 11,340 miles."[3] While there are no reliable data concerning the mileage of improved county roads for 1910 and 1920, at the present time there are 7,521 miles of improved county roads and 1,692 miles of improved town roads. The state commissioner of highways estimates that under the new county road system, this will be increased to between 1,200 and 1,500 miles per year.[3]

According to the foregoing figures, for 1930 the total mileage of improved hard roads in New York was only a little over 20,000 miles. In January, 1930, the Oneida County and Mohawk Valley Town Association proposed a program in which it esti-

*In New York State a district superintendent has general supervision of all schools, exclusive of cities and villages over 4,500 population employing a superintendent, in a county or group of towns in a county. A supervisory district is the area supervised by a district superintendent.

mated that there were 50,000 miles of unimproved highways in New York State and in which it asked for a $100,000,000 bond issue to "pull the farmers out of the mud." In a discussion in the *Knickerbocker Press* the commissioner of highways was quoted as favoring a survey to determine what portions of the land reached by these 50,000 miles of highway are worth saving as farm land and what areas might more advantageously be abandoned as far as agricultural purposes are concerned.

TABLE I—TREND IN NUMBER OF TELEPHONES IN NEW YORK STATE*

Year	Telephone Stations Not Including New York City	Telephone Stations in Farm Areas†
1910	119,636	approx. 22,000
1920	306,550	23,000
1929	527,273	28,393
1930 to date	557,813	29,880

*The data for the third column are included in the second.
†Data from New York Telephone Company, Albany, N. Y., January 31, 1930.

In view of these figures it is not too much to expect that in another decade or two at the most, every rural child in New York will live on or near an improved highway. This change will come about in two ways; first, through building improved roads to all land worth saving and, second, through the natural migration of individuals to sections where modern transportation is available.

In 1910, 62,655 motor vehicles were registered in New York State; in 1920, 682,919, and in 1928, 2,115,178. During 1928, each of the following counties registered more motor vehicles than the entire state had in 1910: Erie, Monroe, Nassau, Onondaga and Westchester.[4]

Changes That Have Taken Place

The first automobile bus carriers were registered by the public service commission in 1914. For that year the public service commission registered 53 carriers, for 1920, 56 and for 1928, 127. For 1928, 61 carriers reported 1,714 busses in operation and 69,450,851 fares sold. This represents a change in transportation that is affecting practically every section of the state.[5]

Interurban railway mileage for the past twenty years has decreased, according to the following figures: 1910, 1,408.60 miles; 1920, 1,345.63 miles, and 1928, 1,075.63. While these figures do not particularly concern the rural sections of the state, yet they indicate a change that is taking place.[5]

While the number of telephones in use in the state outside of New York City has increased nearly 400 per cent since 1910, the number in farm areas has increased only about 35 per cent. These trends are indicated in Table I. Many farm areas have fewer telephones than in 1910.

Rural free delivery mail routes were first established in 1897. By 1910, New York's mileage totaled approximately 44,800. In 1930, this mileage had increased to 48,783. The development of the parcel post system adds to the significance of these figures.[6]

In 1924, 24,623 farm homes of New York State reported having radios.[7] While data are not available to indicate the extent of the growth of the radio, it is common knowledge that a large percentage of all homes, both rural and urban, have radio service. Floyd R. Thayer, district superintendent of Otsego County found that, in 1929, 66 per cent of all the children in the schools of his supervisory district had radios in their homes.

Air mail service is relatively new and thus far affects primarily the large metropolitan centers. It is significant that one of the chief air routes from east to west follows the same valley that determined the route of New York's chief railway, its leading canals and the course of the trading vessels that preceded the earlier settlers.

In 1920 more than 45,000 farm homes in New York State had running water in the house.[8]

In 1910 outside of the city of New York there were 144,695 users of electricity in the state; in 1920, 544,241, and in 1928, 1,394,523.[5] In 1920 about 25,000 farm homes had gas or electricity.[8] In 1929 it was estimated that 71,000 New York farm homes had electricity alone.[5]

The moment that water is piped into the house or electricity is available, the energy of the farm woman is released from drudgery and is available for other work. Certain outlets for this energy are no doubt indicated by the increase in the membership of the New York State Federation of Home Bureaus and of parent-teacher associations in rural areas.

TABLE II—DATA SHOWING INCREASE IN SPECIALIZED TRUCK FARMING

Crop	1918	1928
Carrots	815	2,120
Cauliflower	1,520	4,320
Celery	3,200	4,590
Cucumbers	1,450	4,110
Lettuce	3,484	4,460
Green peas	1,100	7,500
Strawberries	3,475	4,480
Asparagus	70	200
Cabbage	3,060	4,120
Snap beans	4,250	6,840

TABLE III—DATA SHOWING CROPS THAT HAVE DECREASED IN VALUE*

Crop	*1910*	*1928*
Wheat	8,414,000	4,702,000—due to increased yield per acre
Rye	2,562,000	314,000—decreased yield and acreage
Buckwheat	6,578,000	3,475,000—decreased yield and acreage
Potatoes	40,290,000	32,376,000—decreased acreage
Tobacco	5,000,000	1,020,000—acreage decreased from 4,000 to 800
Onions	3,532,000	1,291,000—decreased acreage and yield
Hops—Acreage so decreased that estimates were discontinued after 1921.		

*The figures show the total production in bushels.

In 1901-02, the first home reading course was offered to farm women in New York State. The following year 9,500 women enrolled for this course, labeled "Saving Steps." In 1910-11, 17,800 women had enrolled in reading courses and twenty-four groups had formed reading clubs.

The first home demonstration agent in the state was employed in 1914-15. In 1919-20, the New York State Federation of Home Bureaus was established with a reported membership of 10,715. In 1928-29, the total membership was reported as 26,815. They represented 986 rural and 119 urban communities.[9]

Available records indicate that the first rural parent-teacher association in New York was organized at Ogden No. 5, Monroe County, in 1920. A report for 1929 indicates approximately 3,800 rural parent-teacher organizations with a total membership of approximately 78,000.[9]

In 1920, there were 7,021 tractors in use on New York farms.[8] In 1925, this number had increased to 25,681.[10] These figures represent an increase during only a five-year period. General observation indicates a large increase in the use of machines that multiply the productive output per laborer engaged in farm work, for instance, planting machines, hay loaders, gang plows and harvesting machines.

Garages and filling stations have supplanted livery stables. Power companies are bringing new types of work into many rural communities. Electric refrigeration has stimulated specialization in truck farming. The acreage figures in Table II indicate the increase in specialized truck farming.[11] Table III shows the crops that have decreased in value[11] and Table IV shows the decrease in the number of live stock.

The farming areas of many sections of the state have materially decreased in population. "The number of persons actually engaged in agriculture apparently reached the maximum about 1890, and has been declining since that time." Less than 7 per cent of the total population of the state lived on farms in 1928.[12] Two important changes have taken place. In many communities the older population has practically disappeared and land has been purchased and settled by groups representing a relatively new immigration: Poles, Italians, Lithuanians, Czechoslovakians, Finns and Hungarians. The other change due to increased transportation facilities has resulted from an urban population moving into the country. There are really two phases of this change—the family that is moving into the country for a permanent home and the urban individual who is going to the country for the summer, thereby leaving the mark of his urban interests on the resident population.

The Fluctuating Dollar

Table V indicates changes in the economic aspects of the rural population of New York.

Since 1920 the annual value of farm crops has materially decreased. While the other figures indicate an apparent gain in wealth they are largely offset by the change in the value of the dollar. Table VI indicates something of this change and of how farmers in the United States as a whole have fared as a result of the fluctuating value of

TABLE IV—DATA SHOWING DECREASE IN NUMBER OF LIVE STOCK

Animal	*1910*	*1929*	*Per Cent Decrease*
Sheep	930,000	452,000	51
Swine	666,000	290,000	56
Milk cows	1,410,000	1,330,000	5
Other cattle and calves	1,013,000	565,000	44
Horses and colts	591,000	382,000	35

TABLE V—CHANGES IN THE ECONOMIC ASPECTS OF NEW YORK'S RURAL POPULATION

Title	*Value in 1910*	*Value in 1920**	*Value in 1925*
Farm land only	708,000,000	793,000,000	647,000,000
Live stock	183,000,000	314,000,000	170,000,000
Live stock products	105,000,000	225,000,000	237,000,000†
Farm crops	190,000,000	417,000,000	260,000,000†
Forest products	10,000,000	19,000,000	----------

*Data from Statistical Abstract of the United States, 1922 and 1929.
†Memorandum from New York State Department of Agriculture. Data for 1928.

the dollar. These figures are based upon 100 as an index figure of general business conditions in 1910-14.[13]

From Table VI it should be noted that while in 1920 the prices received by farmers were higher than retail prices, in 1929 the index of farm prices was considerably lower than the index for retail prices. From the standpoint of cost of living, the farmer needed $1.98 in 1920 and $1.50 in 1927 to purchase the same amount of living that he could purchase for a dollar in 1910-14.

The country life movement has come and gone. It was predicated on a false assumption, for it advocated taking people back to the farm, a proposal that runs counter to the economic changes growing out of the increased productivity of the individual worker on the farm.

The number of high schools under district superintendents in the state has increased from 575 in 1912 to 622 in 1928. The number of pupils completing the eighth grade increased from 15,483 in 1920 to 21,740 in 1928. The total number of high school pupils in district and village superintendencies increased from 66,929 in 1910 to 349,323 in 1927.

Table VII gives some indication of the increase in minimum standards during this period.

From 1912 to 1928 the cost of transportation of pupils in supervisory districts increased from $60,-720 to $756,662.

New interests have sprung up. Among these may be noted the 4-H club work, in which the 1928-29 enrollment was 20,406 boys and girls, health clubs and parent-teacher associations.

The foregoing paragraphs give some indication of the tremendous social-economic changes that have occurred during the past twenty years and how they have affected the rural life of New York State. Specifically, in one way or another, all of these changes affect the work of the district superintendents who are responsible for the educational welfare of these rural areas. These issues were discussed at length in the several regional conferences of district superintendents held during the early months of 1930. The figures quoted in the following pages represent impressions gained from these discussions.

Whereas in 1910 probably not more than 5 to 10 per cent of the schools under superintendents could be reached by well improved highways, to-day more than 75 per cent of such schools are on or near improved highways open to automobile traffic practically the entire year. In 1910 the district superintendent traveled in a horse and buggy. To-day, he travels almost entirely by automobile. The recent rapid development in methods of snow removal has materially increased the use of automobile transportation during the winter months. This means that hours formerly spent in travel can now be spent in effective work either in the schools or in the office.

Also, increased transportation facilities mean that more people can get to the superintendent and thus more demands are made upon his office time.

Practically all union free and central rural schools have telephones in the principal's office. Most school trustees can be reached at their home by telephone and practically all teachers at their homes or boarding places. Moreover, the increased use of the telephone has its effect upon the superintendent, because patrons can reach him with a variety of problems.

Relieving Farmers of Drudgery

Labor saving devices are gradually releasing the energies of the farm women for other purposes. In most rural communities there is to-day a certain energy available for social purposes that was not available in such large measure twenty years ago. On the superintendent rests the responsibility for helping direct this energy toward productive social ends.

Moreover, the children in these farm homes are experiencing a certain freedom from drudgery. They have time and energy that the school should help direct. Those who remain on the farm through their adult life will find still a different social status from that which their parents experience to-day. These changes force a responsibility

on the superintendent for directing and guiding the revision of the school curriculum and for the organization and supervision of social activities of children, particularly those of the adolescent age.

The increased productivity of machinery no doubt tends to decrease the actual number of people living on farms, which in turn will affect the problem of centralization of schools in rural areas, and ultimately the size of the supervisory district.

The two significant migrations of population increase the responsibilities of the district superintendent. Urban people moving to the country have surrounded every city with school districts populated by a class of persons who want their children to have the best educational opportunities America can afford. They will not be satisfied with the meager opportunities that have marked the one-teacher school during the past quarter of a century.

Urbanizing Rural Population

The annual migration of vacationists has brought our rural areas in direct contact with the thinking of our more urbanized population, so that district superintendents, especially in the mountainous areas of the state, find themselves dealing at first hand with the spirit and interests of the most progressive urban centers.

On the other side of the picture we have school communities where the older native population has disappeared and where the farms have been taken over by new immigrants, especially those from central European countries. There are literally scores of one-teacher districts in the state with fewer than five inhabitants qualified to vote or hold office. In fact, there are many districts without a single qualified elector in residence. This means that responsibility for helping carry on the state's Americanization program rests with the district superintendent.

TABLE VI—HOW FARMERS HAVE FARED AS RESULT OF FLUCTUATING VALUE OF THE DOLLAR

Item	*1914*	*1920*	*1929*
Wholesale prices	100	230	150
Retail prices—food	106	207	174
Farm prices, N. Y.	103	217	157
Cost of living to farmers	100	198	150
Cost of living in U. S.	104	212	172

The past decade has been exceedingly trying for rural people throughout the United States. The difficult economic conditions have been reflected in the attitude of farmers toward their schools and has constituted one of the chief problems confronting district superintendents in their efforts to develop a better educational offering for rural children.

Growth of secondary education, particularly the extension of this movement to include grades seven and eight, has materially increased the responsibility of district superintendents and requires of them a knowledge that will fit them adequately for supervision of all secondary school grades. The movement requires that the superintendents assume the leadership in extending secondary education to all children of their supervisory districts.

TABLE VII—INCREASE IN MINIMUM STANDARDS FROM 1912 TO 1928

Title	*1912*	*1920*	*1928*
Teachers' annual salary	$439	$807	$1,340
Average length of school term	169	183	185

The rapid development of the state's assumption of financial responsibility for education makes it imperative that district superintendents assume the leadership in guaranteeing that these state funds shall be spent locally to the best possible advantage of the rural areas. The abandonment of the duplication principle for the purchase of library books, equipment and supplies forces the superintendent to assume the primary responsibility for advising trustees in these matters, a duty that was once exercised only by the state department.

The enlarged social horizon brought to rural communities by the universal utilization of the automobile challenges the superintendent to lead in developing new rural activities in harmony with the interests of the people concerned.

Urban and Rural Schools Now Similar

The increased migration of urban people into the country and of the graduates of rural schools to the cities obligates the rural superintendent to be abreast of the educational movements of the day and breaks down any differentiation that may have existed between rural and urban schools.

The foregoing considerations raise certain other questions that can be answered only in the future but that challenge anyone who assumes responsibility for a position of supervisory leadership in New York's public school system:

In view of these vital changes, is there any longer a need for the one, two, or three-teacher common school district?

What changes are needed in our present inter-

mediate unit—the supervisory district—or in the office of district superintendent better to serve the changing rural areas of the state?

What special supervisory or administrative services, in addition to those now being rendered, are needed by the rural schools? What effect will the continued growth of centralization have upon these services and the means of supplying them?

What qualifications should the people of the state expect and require of the district superintendents who influence the destines of half a million children?

What financial reward should the state provide for the men and women who influence the daily lives of these half a million children?

What changes should we begin to consider in the relationships of the superintendent to the public he serves and to the state education department he represents?

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Why School Cafeterias Are Gaining in Popularity

The hot school lunch is gaining consideration as an important factor in education as well as a means of meeting the food requirements of children, according to Emeline S. Whitcomb, senior specialist in home economics, Bureau of Education. From the serving of good, wholesome food in balanced proportions, good food habits are taught, she explained, and eating in groups trains in social habits.

The school lunch should help lay the foundation for good health, upon which mental training may be built, by providing wholesome and balanced lunches, well prepared and attractively served. It should represent wise food selection, a high standard of preparation, cleanliness, equipment, service and desirable surroundings. These combined teach wise food habits and right social attitudes and create preferences for good food properly served and distaste for other lunches, such as pick-up lunches sold by venders.

The whole-hearted participation of the children is necessary in any sound nutrition plan. The children's interest can be aroused, through graphic illustrations, in health factors of vital concern to them. Food facts must be "sold" to them. Posters are sometimes used and, by suggestion, aid the child in the selection of his food.

The food is usually assembled with an understanding of the needs of the particular group served. Common foods, instead of unusual foods, are served so that what is learned at school can be applied at home.

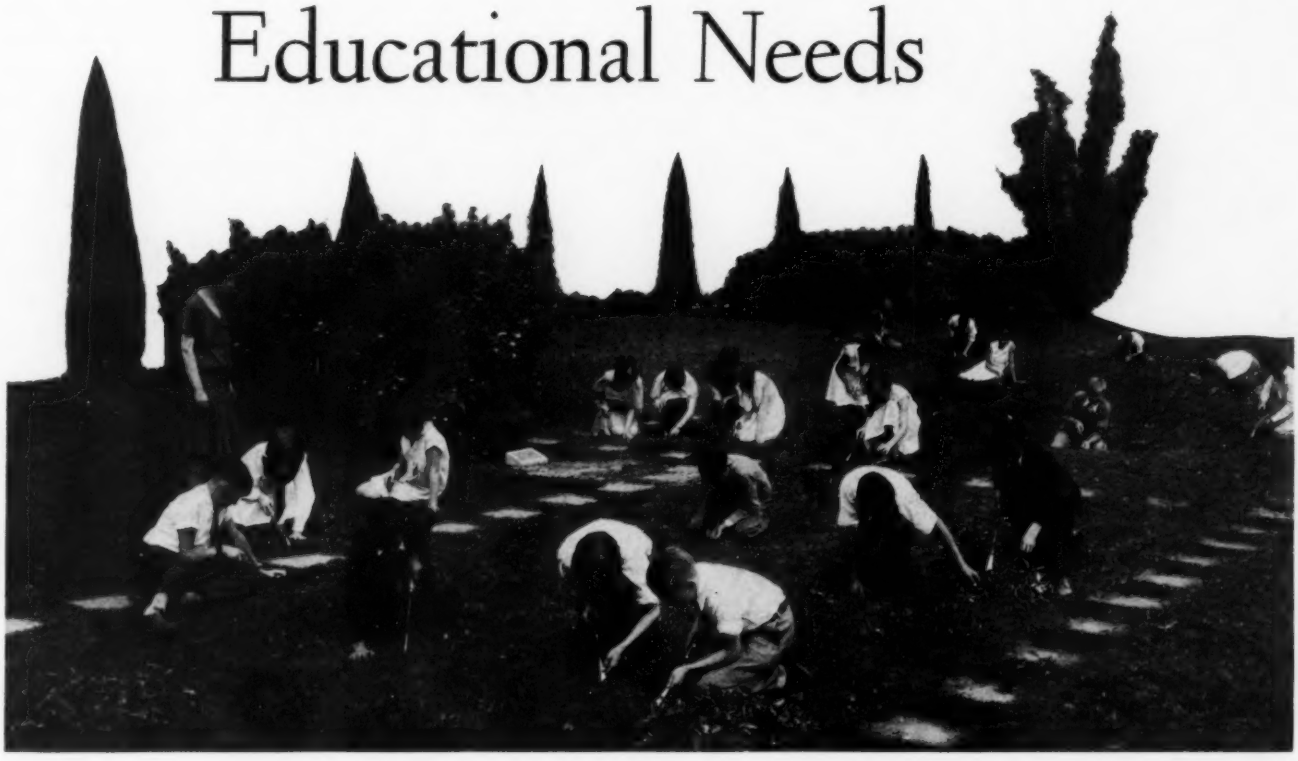
The school cafeteria should be regarded as the school health center. It provides opportunity and practice for lessons in courtesy, consideration and responsibility which promote good citizenship. Opportunities for the expression of proper health habits, personal hygiene, good conduct toward one's neighbors and the larger group, self-control, unselfishness, promptness, and thoughtfulness are not afforded by any other school agency to the extent that can be found in the school cafeteria. The student patrol directing lunch room traffic and general orderliness is a means of training in responsibility, cooperation and team work.

Ohio's Home and Hospital Work for Its Handicapped Pupils

There are 3,500 physically handicapped pupils enrolled in either home and hospital instruction courses or special classes in Ohio, according to Mrs. Hazel C. McIntire, supervisor of the instruction of physically handicapped children.

Ohio, through the department of education, aids in the education of the physically handicapped children. The state reimburses a local board of education for the excess cost over the normal per capita cost. Among the many agencies cooperating in this work are: Rotary, Lions, Kiwanis, Jewish Clubs, Women's Federation of Clubs, State Department of Health, State Department of Welfare, and American Foundation for the Blind. There are various types of classes: sightsaving for those who have partial vision and Braille for those who are completely blind. For those who are crippled provisions are made by special types of desks and seats, and transportation is furnished. For those who are confined in hospitals instruction is furnished. For the deaf, special instruction is given aside from the operating of the two state schools for the deaf and the blind.

How Landscaped Grounds Satisfy Educational Needs



The main objectives of education are more easily attained when the pupils are surrounded by artistically planned gardens that encourage an appreciation of the beautiful in nature

By M. WALTER PESMAN, Landscape Architect, Denver Public Schools, Denver, Colo.

HAPPINESS ought to be a natural by-product of education. If it is not, the modern educator feels that something is wrong with his system.

The very atmosphere of our schooling has changed. Gone are the dull scholastic subjects solemnly imparted by a dignified instructor to "good" pupils. A pleasant environment is being created in which active boys and girls saturate themselves with scholarship, citizenship and appreciation. This environment itself educates along with the teacher.

It is interesting to think of our modern well designed school grounds as a manifestation and outgrowth of this new principle.

What are the fundamental factors that raise landscape development of school grounds from the plane of being merely a pleasant fad to that of a definite educational need resulting in real benefit?

Giving well designed school buildings the proper setting, thereby creating beauty spots in the city plan, has often been the first basis for school ground improvement. Neighborhood and town pride has created elaborate show grounds around high schools. Some of these grounds, resulting from noneducational motives, have had the wrong effect by overdoing a good thing and thus creating a maintenance cost hard to justify on purely educational grounds. The question arises: How far can we go in this direction of "beautification" and where is the dividing line between education and ostentation?

First, just what is the educational value of landscaping school grounds? After all, if it cannot be justified educationally, the great question is whether we have a right to ask the taxpayer to add

Stately shrubs surround this school's main entrance.

even a small amount for a noneducational item in an educational program.

The arguments usually advanced pertain to limited groups of pupils. Those studying botany should profit, under expert guidance, from a wealth of plant material close at hand. There are also vocational and avocational possibilities, although to realize these fully we should have to add greenhouses and large school gardens. The art courses probably profit most directly from well designed grounds. Color, form and texture as chief considerations of art take on new meaning as applied to landscape architecture. Outdoor sketching is made easy and pleasant for pupils.

Rightly to judge the broader educational values, let us consider the main objectives of education that have been laid down in recent years: (1) health; (2) command of fundamental processes; (3) worthy home membership; (4) vocation; (5) citizenship; (6) worthy use of leisure; (7) ethical character.

It should be enlightening to test the value of landscaped school grounds against these objectives. We do not claim 100 per cent on this test. We also do not purpose to drag in specious arguments to prove a point. A well meaning parent in her attempt to procure a fence or hedge along the alley boundary of her boy's school pointed out how many bacteria would be blown into the school yard in the absence of such a "protection."

1. Health, however, is fostered by clean and well kept grounds. There is no argument in favor of the old-fashioned dusty and weedy school ground with its tiny unleveled play yard, its hitching posts and its conspicuous outbuildings.

2. Attractive school grounds do not teach the pupil to read or write. They may at best teach botany and art principles in secondary schools—or furnish hickory sticks for "elementary" education. And these are now out of style. They may, however, provide the pupils with something to write about.

3. We are told that the strong tendency in the last two decades is toward apartment house living, away from the individual home. Whether this indicates a danger signal to be combated by educational methods, does not lie in the scope of this article. If we wish to foster individual homes, we certainly can do no better than instill into the youthful mind a love for growing things which change a house into a home.

A large percentage of school pupils will have the care of future homes. They should be given the opportunity to cultivate a love for gardens and taught their proper layout and maintenance. It seems a logical claim that we should have in our school grounds right examples and a laboratory for the development of garden technique. Apartment house children need this all the more inasmuch as their "home" does not shoulder this responsibility. Thus do school grounds educate to worthy home membership.

4. Vocational education is not as definite an item as we liked to think ten years ago. Society and civilization change so rapidly! By the time we have prepared a crop of perfect telegraph operators, television and radio may make them un-

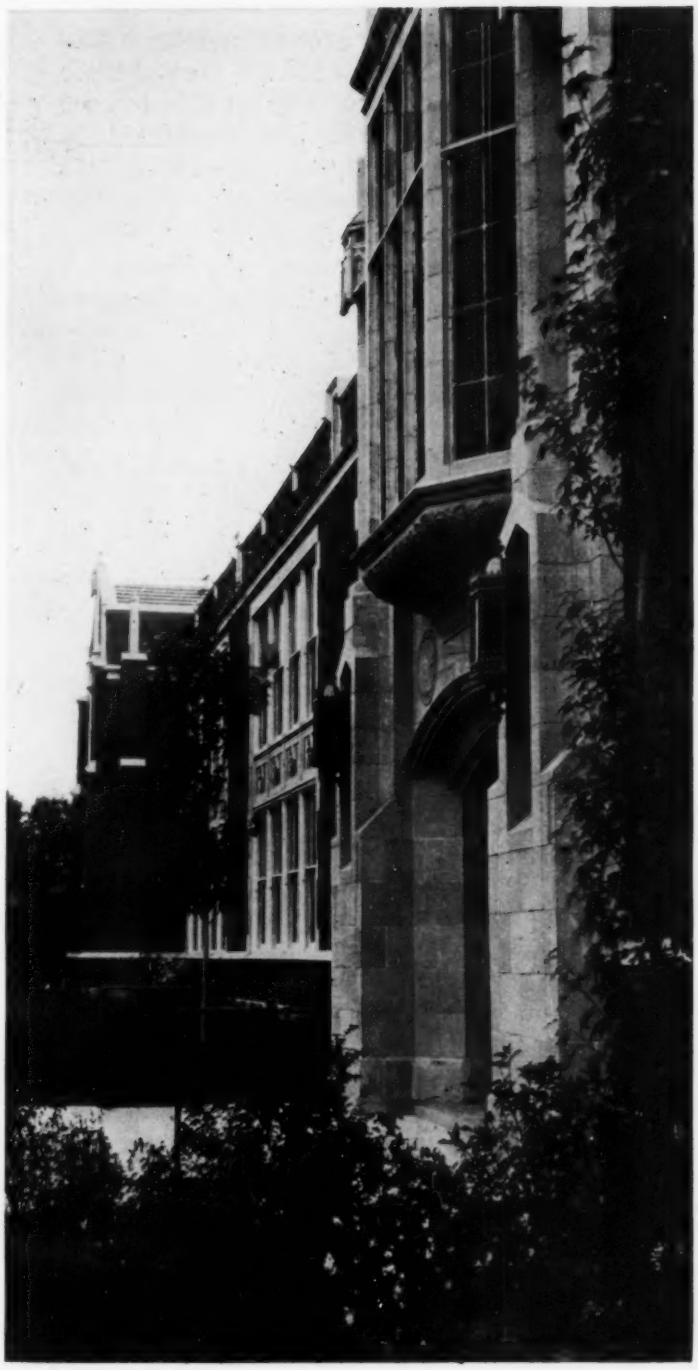
necessary. We train many a John and James to become competent lawyers and find them back as insurance salesmen after a period of semistarvation. Machinery becomes obsolete; industrial systems change.

One thing we know. No matter how humanity lives, live it must—or will. Chemistry so far is not yet able to produce the food of the world. A certain percentage of mankind has to remain close to the soil to enable the rest of us to eat.

We have done little, educationally, to foster a love for the soil and for what it produces. Many of us, born and reared in the country, elected city life since our love for Mother Earth could not compensate for urban advantages. Some of us wish now that our children could be made to feel a closer contact with nature and we look to our public schools for aid.

It seems reasonable to expect that an added interest in the outdoors will draw a larger number of young people back to the country. Whether or not it will be economically safe to prepare many junior and senior high school pupils definitely as farmers, gardeners, stock men, and fruit growers is a matter we must leave to our vocational experts. If the tendency should be toward such definite training, our school grounds would need to be modified to provide the necessary equipment. We would have extensive school gardens as we now have printing presses and modern greenhouses up to the same standard as our school machine shops. A center for cut flowers, such as Denver, would train many greenhouse apprentices. These boys now drift into such places by accident and pick up their training as they may.

In any case, however, well cared for lawns and trees around school buildings foster the taste for all outdoor occupations, and as such play an indirect part in vocational education.



Vertical planting lines harmonize with the architecture.

5. "Civic education should develop in the individual those qualities whereby he will act well his part as a member of neighborhood, town or city, state and nation. . . ." A few actual experiences will illustrate our point. The Elyria Elementary School was built in a difficult district. The neighborhood library had suffered vandalism to both building and grounds. It almost seemed useless to try another lawn or shrubs. This school was given a fair sized front lawn, foundation planting and a low hedge. The following week part of these hedge plants were found in a yard a block away. However, it took less than a year to change the entire attitude, not only of the pupils but of the whole neighborhood, toward beautifying the school.

A junior high school stands in a rather unpromising neighborhood in a mixed colored and white district. Since its erection and the landscaping of its grounds, a large number of the surrounding homes have "spruced up." The children of the 8-B group are allowed to develop a garden tract set aside in its south court. They have carried off blue ribbons at citywide flower shows.

At another junior high school certain pupils are allowed practical garden activities, provided their grades are satisfactory.

At the Lake Junior High School, the principal

and teachers impart their enthusiasm for school and grounds to the pupils as part of a definite program. Citizenship is stressed in the care of these grounds. It carries over to their attitude toward home grounds of the entire district. Even the study of city planning is directly connected with this civic attitude. Is it any wonder that our troubles have quite ceased at a near-by elementary school where a few years ago we had to replace a number of shrubs twice before this changed civic spirit took effect?

It must not be thought that these results are achieved without effort. Enthusiasm or its lack is more catching than measles or a cold. The attitude of the principal and teachers is reflected in the children as faithfully as through a mirror. The critical time is often about three or four years after the grounds are landscaped. The novelty has worn off; the pupils who remember previous conditions are graduated; a few neglected spots begin to appear. If the principal is inclined to depend on the accumulated impetus of this civic movement, then there is indeed danger ahead. Education is a continuous process. Nowadays, as the Irishman put it, "you have to run like the Divil to stay where you are." There is no resting on your laurels in education.

Ingenious methods are being used to keep up this interest. Buttons for clean-up and paint-up campaigns are given for special merit. Slogan campaigns are successful. Here are some samples garnered from an elementary school:

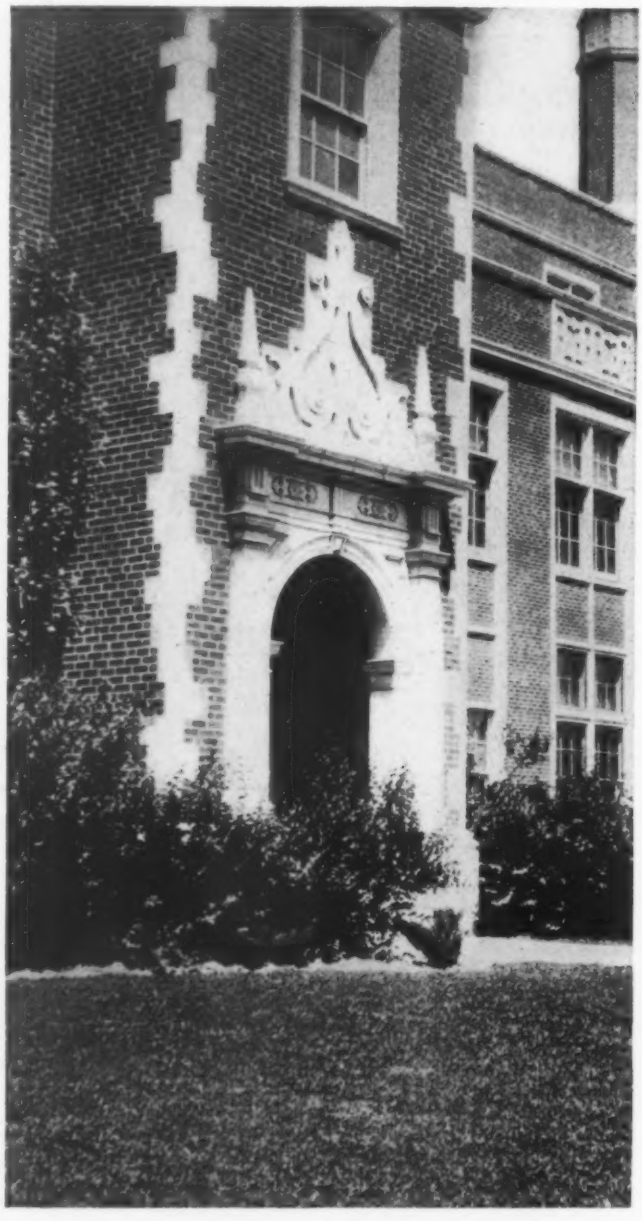
If you get too busy
talking,
You'll forget just where
you're walking.

As you pass—keep off
the grass,
And save the demerits
for some other class.

Some grass grows low, some grass grows tall,
I'd hate to live where no grass grows at all.

School papers often contain interesting items reflecting the pupils' attitude. Here is a clipping: "Let us take pride in our hedges, flowers beds and lawns to be sure they hold their beauty through our care for them." A junior high school combines language with citizenship. The bulletin board unexpectedly displays two large posters: *Nolite ambulare in gramine* and *No andense en el hierba.* Such methods used to protect outdoor beauty offer a proper illustration of how civic education may be a direct outcome of these methods of school beautification.

The old practice, still followed in most European schools, was to enclose the entire school plant within a high fence or wall and to subdivide this in two exact halves to separate boys and girls. Our modern school grounds have no such visible protection. Fences, yes, around playgrounds, to protect the children from "things" (autos in adjoining streets), not to protect "things" (or plants) from children. Denver has no forbidding signs. No frowning janitor stands guard over "his" pet flowers. In most schools the student group appoints a special grounds committee whose duty and privilege it is to carry out rules and regulations made by the pupils. The limit of actual work on the grounds done by pupils is conditioned by the curriculum, by home room activities and by school facilities. Each school determines for itself whether papers shall be picked up or not thrown, whether dandelions shall be dug, how far the lawns may be walked on and if certain garden activities shall



Planting enhances the beauty of the entrance to East High School, Denver.

be pursued. The principal of an elementary school was given permission, for educational reasons, to have the pupils replant a piece of lawn that was tramped out the previous season.

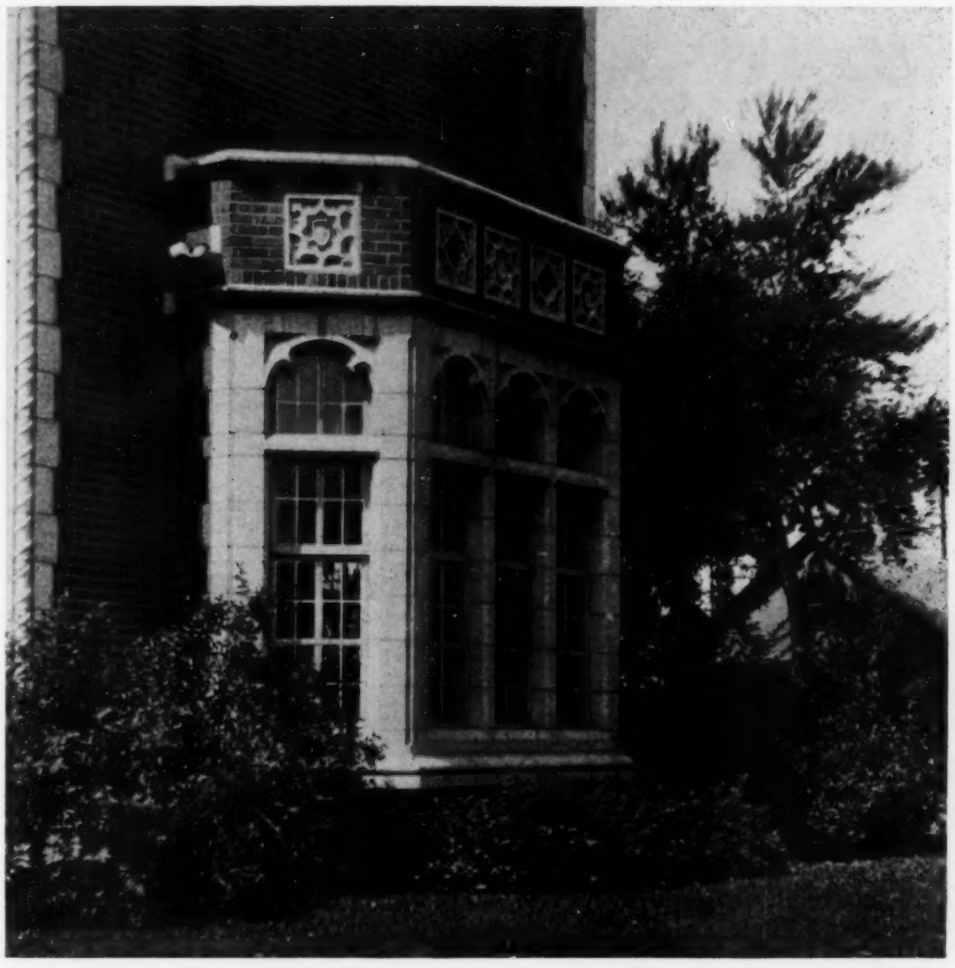
This brings up the question of the proper use of school grounds. A word of warning should be sounded against the extreme "front parlor" policy. Many of us remember with unmitigated terror the old-fashioned best room in which things were not to be touched, where the furniture was kept shining and in place, where doilies were in constant danger of being brushed off and where children were allowed only under the strictest supervision.

School grounds must not give a similar feeling to the youngster. There may be a custodian who values his hydrangeas and his exotic bedding plants more highly than the welfare and happiness of school children. He may put fences around his precious flower beds, and display "Keep off the grass," "Don't pick the flowers" and "Forbidden to climb trees" signs. But he does not live in Denver. Even educators, those of the old school, may perhaps not always have grasped the axiom that the school is for the benefit of the child only. Where the interests of growing things clash with those of growing humans, it is not difficult to decide which is more important.

Does that mean ill-kept and neglected school grounds? Far from it! It does mean, however, careful planning and a well directed effort on the part of principal, teacher and custodian to create the proper attitude in the child.

Public parks in America have disproved the feeling that the average citizen cannot be trusted to respect public property. Apply this experience to beautiful school grounds. Create in a school child a feeling of pride and ownership. Let him develop appreciation of outdoor beauty. Foster his personal responsibility for the continuance of this beauty.

Concerning the wear a lawn can stand, it must be emphasized that there is an unescapable triangle between the number of pupils, the extent of the ground and the cost of maintenance, each of which items bears upon the other two. While theoretically it would be possible to keep grounds in proper condition merely by adding more space as the number of pupils increases, there is a limit beyond which it is neither wise nor proper to go in the cost of maintenance.



Low shrubs surrounding a bay window of the Fairmont Elementary School, Denver, emphasize the beauty of the stonework. The shrubs have been carefully planted so as not to interfere with the lighting of the classroom.

The inference is that certain restrictions of use will need to be made. The smaller the landscaped area the more restricted must be its use and the more difficult the task. There is a limit beyond which the effort to keep children off restricted areas might not be worth the resulting benefits.

6. Of ever increasing importance is the kind of leisure we are to enjoy in our complex civilization. The great question is how to derive the greatest all-round benefit. As our contacts with each other become more varied and more frequent the nervous system is put to an increasingly hard task. How can we restore it? Leisure time close to nature and away from people is a most effective restorative. Lawn and trees not only act as a welcome sedative to overstimulated nerves, but they create a desire for spending spare time outdoors.

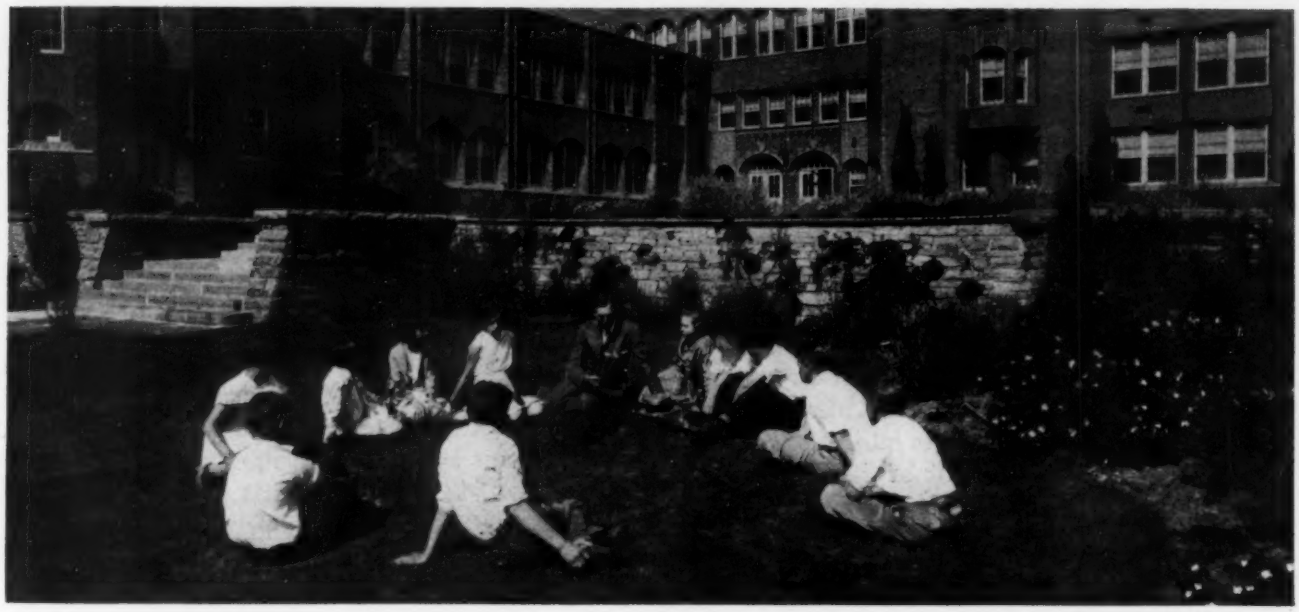
Another angle, that of "garden leisure," if I may coin the word, has already been mentioned under home membership. Germany provides garden colonies in the outskirts of its cities to take care of the gardening instinct of its citizens away from their crowded dwellings. Many are fortunate in America to live in detached homes. We should consider it a privilege to use our home yards as intensively and as happily as these German garden commuters do their rented parcel of garden tract. We may well look to our school grounds for such inspiration.

7. What do school grounds have to do with ethics? Some well meaning enthusiasts may vaguely reason that "nice" surroundings produce "nice" children and that being good is a direct result of having the proper advantages. This is an unconvincing half truth. Let us analyze. Ethical training in our American public schools is not a matter of studying lessons on behavior, courtesy or religion. Practicing desirable virtues seems to us more to the point. We are creating situations that call for the exercise of such traits and in which the child discovers natural consequences from the failure to act ethically. A school furnishes a microcosm where most of the laws of society at large hold good.

Lake Junior High School, Denver, actually overlooks a lake and adjoins a park that is alive with beautiful birds.

There is a school in Denver that appears to have grown out of a hill overlooking a lake with a snowy mountain range beyond. There is a park adjoining where one can often hear the song of the meadow lark or see the red-winged blackbird flit among the cat-tails. To a growing child these surroundings mean, first, beauty, then repose and re-creation. The effect is noticeable. The love for nature ever promotes a desire for the use of leisure time in communion with nature. The children in this school are learning wholesome pleasures outdoors; and an outdoors' enthusiast is seldom found in a "shady" stratum of society.

Personal self-restraint for the general good is clearly practiced in a child's resolve to keep the grass, the trees and the flowers intact. Respect for



Such school grounds as these offer enticing opportunities for classes in botany or art.

beauty and for nature's laws of growth is an underlying principle in this resolve. To preserve this natural beauty at the forfeiture of thoughtless trespassing is an introduction to good citizenship. Little more need be said. Ethics concerns our behavior in regard to the school, the home and the community. To be good means to be good to others.

A modern book on child training[1] devotes a chapter to the ethical training through gardening and another to esthetic appreciation. Both have a definite bearing on this subject. "Mother Nature is a thorough teacher who omits all frills and is able to preserve moral balance and self-restraint, who acts as a sedative to emotional excess, who cures snobbishness and fosters the appreciation of beauty."

Another recent book[2] points out that education should accomplish physical adjustment and economic adjustment. A comment adds, correctly, esthetic adjustment. Test our present subject by this norm and there will be found a direct bearing, the efficacy of proper school surroundings in carrying out such adjustments.

I am tempted to add an eighth objective—esthetic appreciation. It deserves a more important place than a mere subheading under leisure. Regardless of what a child may do in his later years, no matter in what stratum of society he may find himself, there is one joy that can never be taken from him. It is the joy of a glorious sunset, of the music of rustling autumn leaves, of nature's etching of snow on evergreens. This is the joy that comes to the person whose sense of beauty was nourished in youth by fine surroundings.

[1]O'Shea, M. V., Newer Ways With Children.
[2]Ulappe, Dean, Contemporary Education.

This article would not be complete without mentioning the arguments sometimes used against school ground planting in the light of educational values. Most of them seem far-fetched, shortsighted or little to the point. They are mentioned here together with arguments that may be advanced in refutation.

1. Trees and shrubs interfere with the light in classrooms.

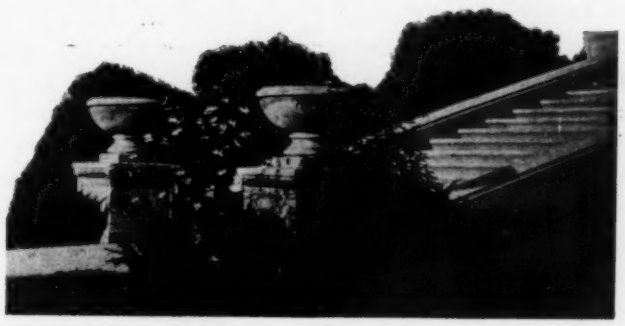
Proper placing can prevent this; a little trimming can remedy it. We know of cases where the removal of a tree for the sake of light has been followed by serious complaints about summer heat and as a consequence the excessive use of window shades that excluded more light than the offending tree.

2. Planting takes away valuable playground space.

This is obviated by proper planning. A careful observer will see how much more intensively a playground is used in its partly shaded sections.

3. The effort to make the children protect plants is out of proportion to the resulting educational benefit.

This is a question of opinion. The argument is one usually advanced by poor disciplinarians.



4. There is a moral danger from secluded hiding places furnished by shrub planting.

The point is less often made since automobiles offer more convenient seclusion. A small electric light will be a sufficient remedy.

5. Children should be allowed perfect freedom in the use of school grounds for their unhampered individualistic development.

Providing "Subconscious" Education

Few educators now think of freedom and unrestraint as synonymous. The question was mentioned under civic education, which means training for the community with all its inhibitions.

We should, therefore, think of the subject of the landscaping of school grounds in the light of "subconscious" education. In this practical and efficient age we are afraid to be caught in an introspective mood. We dislike to give credit to those moments when we are receiving general impressions, vague but often lasting, from everything around us. Yet it is from this treasure chest of stored away images that the artist draws his new creations, the scientist a solution for his problems and the average common mortal his inspiration and happiness.

Drab everyday life kindles no spark of wit, of enthusiasm, of genius. A child surrounded by commonplace classrooms, bland school buildings and bare grounds has to depend mainly on his school teacher for his entire mental atmosphere.

How much credit for the creation of our inner selves has been due to accidental impressions received from the outdoors? There was a hike, a picnic, a swim, a lazy basking in the sun with bees humming and crickets chirping. There was a horseback ride or a boat trip with a bracing wind and a tang in the air.

Many of our modern children in crowded cities cannot enjoy such events except on rare occasions. Our schools are now supplying a substitute for "chores" and a character training that used to be considered the parents' prerogative. We have brought home problems into our school buildings. In Europe one often comes across a procession of school children with their teacher on the way to a park, a playground or a museum. An easier way is to have a park and playground at the school. It is the more American and democratically educational way. Supply proper school surroundings and you will reap proper attitudes. Provide early impressions of beauty and you will find more happiness in later life. You may call these intangibles, mere by-products of landscaping school grounds; then again you may consider them immediate outcomes. In either case they are in the direct line of the modern spirit of education.

South Dakota's Program of Radio Instruction

A radio receiving set in every school is the aim of E. C. Giffen, superintendent of public instruction for South Dakota. A radio manufacturing company already has begun, at its own expense, installation of receiving sets in sixty-four county school superintendents' offices, in normal schools and in colleges having teacher training departments. Attracted by South Dakota's statewide public school curriculum revision program, Mr. Giffen indicated, the radio company has decided to make this state an experimental area for radio education. It is through this program of radio education that Mr. Giffen hopes that South Dakota may lead the nation in this new branch of instruction.

Nearly $18,000 will be spent by the company in the installation and equipping of these schools with radios, the superintendent said. The radios will cost $14,000 and the installations will cost approximately $4,000. Neither the state department nor the county superintendents are under any obligation to buy or to recommend the purchase of the radios.

By accepting offers of South Dakota radiocasting stations, Mr. Giffen said, the state department can maintain radio contact with county superintendents and school executives. Five of the state broadcasting stations have offered radiocasting privileges for various phases of educational work in the past.

It was because of South Dakota's progress in the public school courses of study revision that the radio company agreed to experiment.

The Value of the Film Strip in Teaching Agriculture

During the last few years film strips have become an important and highly valued supplement to extension, 4-H Club and general agricultural teaching, says the United States Department of Agriculture. The educational value of pictures has long been recognized, but it was not until the film strip came into existence that pictures on related subjects could be organized into a series for teaching use and made available for projection at a nominal cost. The reasonable prices charged for film strips, the convenience with which they can be handled and their effectiveness in extension teaching are factors contributing to their popularity.

What Benefits Do Pupils Derive From School Clubs?

A study based on a questionnaire sent high school administrators of the Northwest demonstrates that in their opinion the advantages outweigh the disadvantages of clubs in their schools

By R. D. RUSSELL, Professor of Secondary Education, School of Education, University of Idaho

THE high school at the present time has two fairly distinct curricula—that of the teacher and that of the pupil.

The teacher's curriculum as far as the major subjects are concerned had its origin in the past, and has been supported and maintained because of a general belief in the now obsolete doctrine of formal discipline and because of the ever present conventionalism of the teacher. This curriculum has dominated the interests and efforts of teachers for many years.

It is only natural that the teacher should be interested and active in the work of a curriculum that affects her problems. But it can hardly be expected that another group of individuals, in a different stage of maturity, will work as wholeheartedly on these problems as the person whom these problems affect. Consequently pupils have in the last few years originated for themselves a group of activities in which they are interested.

Pupils Want Outside Activities

These activities of the pupils are sometimes called extra-curricular, and as far as the teacher is concerned this designation is correct. From the pupils' viewpoint, however, these activities are truly curricular. They represent the interests and the problems of the pupils, which arise out of their life interests, and therefore they engage their whole-hearted endorsement and activity. The teacher is more or less indifferent to this curriculum for the same reason that the pupils are indifferent to the curriculum of the teacher. The present investigation concerns a group of such activities and is an attempt to determine the present status of high school clubs in the four Northwestern states of Idaho, Montana, Washington and Oregon.

Questionnaires were mailed to 600 high schools of these states. Two hundred and eighty-eight returns were received, and of these 231 contained data that could be used in the summary. The average enrollment in these schools was approximately 125, and the range was from 17 to 2,440.

What Questionnaires Covered

The five following questions were asked:

1. What clubs and societies do you have in your school? When do they meet?
2. Check as number one those you consider the most important; number two, those to which you are indifferent, and number three, those you would like to see abandoned.
3. Do they detract from scholarship?
4. What values do you think you are realizing from club activities?
5. Mention what disadvantages you see in them.

A summary of the answers will be given in the order of the questions. The clubs reported, with the frequency of mention, are given in Table I.

The total number of clubs reported by the 231 schools was 812, which is an average of 3.5 clubs per school. The enrollment in the average school reported is approximately 125. From these figures we can roughly estimate that these schools have approximately one club for every 36 pupils.

The answers to the second part of the first question, which has to do with the time of meeting of the clubs, were unsatisfactory and indefinite. They indicated clearly that clubs meet most frequently once every two weeks. Next to this is the weekly meeting. The time of day of meeting, however, is variable, judging from the data. The answers regarding the time of day of meeting were so unsatisfactory as to give little opportunity for reliable conclusions.

The second question called for an estimate of the importance of the various clubs reported.

TABLE I—TOTAL NUMBER OF CLUBS REPORTED

English Clubs—159

Dramatic	54
Literary	44
Debate	37
Journalism	7
Public Speaking	5
English	4
Writers'	2
Literature	2
Stage Force	2
Classical	1
Reading	1

Girls' Clubs—119

Girls' Clubs	49
Campfire Girls	20
Girls' League	19
Girls' Athletic Clubs	13
Girls' Reserves	8
Girls' Letter Club	4
Girls' Federation	2
Girls' Auxiliary	1
Council of Girls	1
Artemiad Club	1
Zeta Pi	1

Boys' Clubs—97

Lettermen's Clubs	41
Boys' Clubs	23
Boy Scouts	12
Boys' Athletics	11
Boys' League	2
Boys' Federation	2
Boys' Stag Club	2
Boys' Manual Training	1
B.A.S.S.—Boys' Social	1
Klamath Knights	1
Delta Club—Boys' Social	1

Music Clubs—71

Glee Clubs	22
Girls' Glee Clubs	13
Music Clubs	12
Boys' Glee Clubs	10
Orchestra	7
Band	4
"Uke" Clubs	3

Language Clubs—55

Latin	18
Spanish	17
French	16
German	2
Modern Language	2

Honor Societies—37

Agriculture Clubs—31

Science Clubs—23

Home Economics Clubs—22

Home Economics Clubs	16
Sewing Clubs	2
Home Making Club	1
Camp Cookery Club	1
Domestic Art Club	1
Smith-Hughes Club	1

Student Body Assns.—22

Hi-Y Clubs—19

Girls' and Boys' Pep Clubs—18

Athletic Letter Soc.—16

Physical Culture Clubs—14

Swimming	3
Hiking	3
Tennis	2
Physical Culture	1
Outdoor Activities	1
Golf	1
Alpine	1
Dancing	1
Ski	1

Commercial Clubs—12

Torch Honor Societies—12

Booster Clubs—8

Mathematics Clubs—7

Radio Clubs—6

Subject Clubs—6

Boys' and Girls' "H" Clubs—5

History Clubs—4

Rifle Clubs—4

Normal Tr'n'g Clubs—4

Torch Societies—4

Jr. Chamber of Comm.—3

Tri-Y—3

Photography and Camera Clubs—3

Filipino Clubs—2

Stamp Clubs—2

Aviation Clubs—2

The following were mentioned only once:

Traffic Club
Scrapbook Club
Drawing Club
Engineering Club
National Honor Society
Science Movie Club
Astronomy Club
College Club
Entertaining Club
Vocational Arts Club
Forum Organizations
Hobby Club
Workers' Club
Garden Club
Braves of Tomahawk (Vigilance)
Ushers' Club
Lynx Club (Service Club)
Industrial Arts Club
Panther Club
Neekleites Club
Red Headed Girls' Club
Sunny Circle Club
Mendelsham Club

TABLE II—HOW PRINCIPALS AND SUPERINTENDENTS RANKED CLUBS AS TO IMPORTANCE

Clubs Checked as Most Important

Girls' Clubs	38	Junior Chamber of Commerce	1
Dramatic	34	Aviation	1
Music	29	Language Clubs	1
Associated Student Body	20	Senate	1
Athletic	20	Home Making Club	1
Agriculture	17	Garden Club	1
Lettermen	15	Mendelsham	1
Honor Society	13	Entertaining Club	1
Boys' Clubs	12	Calf Club	1
Campfire Girls	10	Journalism	1
Debate	10	Spanish	1
Girls' League	8	Hi-Y	1
Boy Scouts	7	Pep Band	1
Science	7	Outdoor Activities	1
Home Economics	6	G. R. Club	1
Girls' Reserves	5	Speakers' Club	1
Booster	4	K.O.S. (Pep Band)	1
Torch Society	4	Radio Club	1
Torch Honor	4	French Club	1
Commercial Club	3	Hi-Arts	1
Pep Club	3	Chieftain of Nation	1
Class Organizations	3	E. Club	1
Art Club	2	Vigilance Club	1
Sewing Club	2	Klamath Knights	1
Tri-Y	2	Historical Club	1
Teachers' Normal Training	2	Workers	1
H. Club	2	X. Club	1
Stage Force	1	N. B. Club	1
Current Events	1	G. A. A. (Girls' Athletics)	1

Clubs to Which Principals and Superintendents Were Indifferent

Athletics	8	Subject	1
Dramatics Club	6	Big S	1
Lettermen's Club	6	Astronomy	1
Spanish	5	Sunny Circle	1
Hi-Y	5	Journalism	1
Latin	4	Science Movie	1
Literary	4	Knights of Big O	1
French	3	Home Economics	1
Debate	3	Tomahawks (Pep)	1
Boys' Club	3	Commercial	1
Rooters' Club	3	X. Club	1
Girls' Club	2	Industrial Arts	1
Associated Pupil	2	Rifle Club	1
Stamp Club	2	Camera	1
Science	2	Honor Society	1
German	2	Sewing	1
Derby (Pep)	1	4-H Club	1
Scribblers	1	Purple C (Boys)	1
Campfire Girls	1	Kosy Korner (Girls)	1
Pep Club	1	Highland Lassies (Rooter)	1
Boy Scouts	1	Art Club	1
Gold G (Girls)	1	Nonsilk Hosiery	1

Undesirable Clubs

Latin	2	Sigma Club (Sr. Hon. Social)	1
Boys	2	Class Organization	1
Agriculture	2	A.M.A. (All Students Assn.)	1
Girls' Club (Pep)	2	Hokmah (Boys' Social)	1
French	1	Lettermen's	1
History	1	Hobby	1
Zeta Pi (Girls' Social)	1	Shorthand	1
Sciences	1		
Hi-Y	1		

TABLE III—HOW CLUBS INFLUENCE THE DEVELOPMENT OF DESIRABLE PERSONAL TRAITS

Advantages—101		*Disadvantages—6*	
1. Responsibility	33	1. Night clubs have moral dangers	1
2. Leadership	25	2. Will develop aggressiveness	1
3. Initiative	16	3. Make pupils feel too important	1
4. Individual growth	9	4. Pupils gain too much confidence	1
5. Self-reliance and dependability	5	5. Trains in art of half-doing	1
6. High ideals	5	6. Pupils cannot carry responsibility	1
7. Character building	3		
8. Appreciation	2		
9. Self-confidence	1		
10. Altruistic motives	1		
11. Created correct attitude	1		

Principals were requested to indicate the clubs they considered most important, those to which they were indifferent and those they would like to see abandoned. Some idea of the endorsement given clubs by high school principals may be gained from the fact that 328 clubs were checked as "most important," 91 clubs were checked as "indifferent," and only 20 clubs were checked as "wished abandoned." Only 115 principals attempted to answer this question.

How Clubs Were Ranked

Table II lists the clubs that principals and superintendents think are most important; those to which they are indifferent, and those they would like to see abandoned.

The type of club that principals think is important is significant as well as interesting. Out of 115 reported, English was mentioned 39 times. Dramatics and debating, however, were the only English clubs referred to. Music was referred to 29 times; agriculture, 17; science, 7; home economics, 6; commercial, 3; history, 1; Spanish, 1; French 1, and language, 1. These were the only clubs mentioned that had a degree of affiliation with school subjects. These make a total of 105 clubs. The total number checked as important is 313. Scarcely more than a third, therefore, have any degree of affiliation with school subjects. Moreover, the great majority of those that do are only remotely related to the more formal phases of the subjects. Music and English clubs are illustrations.

It is safe to conclude from this list, therefore, that high school principals and superintendents are looking for values in club activities other than the stimulation of interest in school subjects, much of which has no direct and obvious relation to the activities of life.

Academic Clubs Not Popular

It can be observed that though Latin and German receive no mention as being important, they are mentioned as clubs to which superintendents and principals are indifferent. Spanish and French each are referred to only once among the clubs represented as important. But the frequency of mention in the list containing clubs of little

TABLE IV—HOW CLUBS BENEFIT SOCIAL DEVELOPMENT

Advantages—91		*Disadvantages—22*	
1. Social growth and training of pupils	29	1. Makes cliques	7
2. Citizenship training	21	2. Develops clannishness	4
3. Training in group activity	12	3. Jealousy	3
4. Social adaptation, social qualities	9	4. Undemocratic	2
5. Group solidarity and unity	7	5. Social discrimination	2
6. Fellowship and good comradeship	5	6. Self-centered	1
7. Discovers civic qualities	3	7. Social clubs unsatisfactory	1
8. Presents life situations to real community citizens	1	8. Tends too much to social acts	1
9. Breaks down established local factions	1	9. Politics	1
10. Gives good community spirit	1		
11. Contacts made with outside people	1		
12. Gives pupils poise	1		

value is greater. These facts indicate a wholesome trend away from the domination of clubs by academic subjects.

The number of clubs that principals think should be abandoned is small. Only 4 are mentioned twice. The total number of Latin clubs reported in this investigation was 18. Two of them were mentioned as undesirable and they were a matter of indifference in four cases. Latin was not mentioned by anyone as being important. The proportion of principals who were not interested in Latin clubs was therefore large. On the other hand, there were reported 31 agriculture clubs, 17 of which were listed as important, and only 2 as undesirable. The proportion of agriculture clubs can be seen to be quite different from that of Latin clubs. Practically the same condition exists with reference to modern foreign languages, as is the case with Latin. It seems safe, therefore, to conclude that the administrative officers in the Northwest realize the possibilities existing in club activities, outside of the stimulation of interest in school subjects as they now exist.

Answers to Questions 3, 4 and 5, which have to do, respectively, with the extent to which clubs detract from scholarship and the values and disadvantages of clubs, were combined in formulating Tables III, IV, V, VI, VII and VIII. Frequency tables containing values or advantages and disadvantages were constructed and the items organized under the headings given in the tables. The classification of a number of items is questionable as it depends in each case on the point of view of the writer.

Developing Desirable Traits

Only 6 handicaps to the development of desirable personal traits were mentioned in Table III. If those are examined, they do not appear to be serious. The second, third and fourth disadvantages are questionable, to say nothing of the first and fifth. The probabilities are that more persons suffer from a feeling of inferiority than from one of superiority. Moreover, each of the disadvantages was mentioned only once.

The advantages reached a total frequency of 101, with responsibility, leadership and initiative receiving three-fourths of the emphasis. The other traits mentioned can be seen to be highly desirable, and it is hoped that values are being realized from them to a greater extent than is indicated in this table. Emphasis in the past has been given too largely to the accumulation of knowledge rather than to the development of wholesome habits, attitudes, ideals and appreciations. So much emphasis has been placed on what children know that little time and thought have been given to the consideration of the development of desirable personal traits. Administrators in the Northwest seem to feel that clubs are making a contribution toward filling this need in secondary education.

Clubs and Social Development

Administrators seem to be optimistic over the possibilities of clubs for giving social training, as 91 values were listed with only 22 possible disadvantages. If the relative frequency of mention of the advantages and disadvantages carries any significance, the dangers connected with club life in high schools are not great when we consider the wholesome and desirable outcome resulting from such activities. The values mentioned are those that administrators feel they are realizing from club activities. That these statements are fairly reliable cannot be doubted. However, more extended and more scientific investigations are needed to determine the extent to which clubs are making these contributions.

It is interesting to note that so many administrators feel that club activities are conducive to the encouragement of scholarship. On the other

TABLE V—HOW CLUBS INFLUENCE SCHOLARSHIP

Advantages—56		*Disadvantages—33*	
1. Enthusiasm and incentive in good scholarship	25	1. Takes time from pupils, but clubs are important	9
2. Training in public speaking and self-expression	16	2. Time consumers	7
3. Educational values	7	3. Too many evening activities	4
4. Develops and trains students instead of bookworms	2	4. Pupils overtax their strength	4
5. Encourages research	2	5. Sometimes made the chief business of the school	3
6. Interest maintained in agriculture	2	6. Apt to be overemphasized	3
7. Aid to spoken French	1	7. Overload prominent pupils	1
8. Connects "doing" with "learning"	1	8. Pupils not in clubs lack interest in school	1
		9. Fears handicap unless based on scholastic standing	1

TABLE VI—HOW CLUBS INFLUENCE SCHOOL MANAGEMENT AND CONTROL

Advantages—78		*Disadvantages—37*	
1. Instigates pep and interest, loyalty to school	43	1. Lack of faculty advisers	12
2. Develops cooperation and harmony	21	2. Lack of competent instructors	6
3. Better contact between pupils and teachers	6	3. Takes teachers' time and energy	5
4. Discipline	3	4. Too many clubs for all to attend	3
5. Helps to hold children in school	2	5. Parents object to evening meetings	2
6. Clubs getting backing of community more and more	1	6. Hard to find a meeting place	2
7. Bit of healthy rivalry	1	7. Danger of introducing radical situations	1
8. Stabilizing force for adolescent unrest	1	8. Have to watch athletic clubs closely, especially initiations	1
		9. Weakens discipline at times	1
		10. Hard on faculty to find material for meetings	1
		11. Complaining, short-sighted parents	1
		12. Athletes cause trouble in clubs	1
		13. Imitates college procedure too much	1

hand, some clearly feel that they are time consumers. Of those who mentioned the fact that clubs were time consumers, nine added "but clubs are important." Four administrators thought that pupils tend to overtax their strength. This is no doubt true in some instances. However, it seems possible that with the proper administrative procedure, the disadvantages listed in Table V could be easily overcome. Moreover, almost as many referred to clubs as developing "enthusiasm and incentive in good scholarship" as those who mentioned things that may be judged to be handicaps to good scholarship. Fifty-six administrators mentioned clubs as being valuable from an educational and scholastic standpoint. The advantages, therefore, seem to outweigh the disadvantages.

Clubs Do Not Detract From Scholarship

The third question listed in this questionnaire was a request for a specific answer to the question "Do clubs detract from scholarship?" Two hundred and eighteen administrators reported no detractions, and 13 reported detractions or made statements that might be interpreted as such. The answers were as follows: (1) none, unless pupil is already poor; (2) probably in some individual cases; (3) some have pretentious programs; (4) sometimes, not seriously; (5) possibly from grades, but not true scholarship; (6) in a few cases; (7) Girls' Club does; (8) some; (9) yes, some (have only three clubs, dramatic, music, art); (10) not materially (dramatic, literary); (11) yes; (12) all but honor society; (13) Scouts do; think they should have special privileges.

It may be seen, therefore, from these statements, that the items listed as disadvantages to scholarship were things that superintendents did not consider of a serious nature. When they answered the specific question regarding the amount of detraction to be expected from participation in clubs, their statements are evidence of the fact that they considered this amount negligible.

Table VI includes a list of advantages and disadvantages that might have some bearing on the administrative burden connected with club activities. Although it is realized that the job of the administrator and of the teacher is to adjust the system to the needs of the pupils enrolled, yet all other conditions being equal, this factor might have considerable weight. Under advantages are listed the things that will probably facilitate better school management, and under disadvantages are listed those that will be a disadvantage to proper school management and control. It will be noticed that most of the disadvantages listed here are things for which the clubs cannot be held responsible. Lack of faculty advisers and compe-

TABLE VII—HOW CLUBS PROMOTE A WORTHY USE OF LEISURE TIME

Advantages—35	
1. Interest in good things increased	18
2. Recreational outlet-leisure time values	7
3. Interest maintained in music	3
4. Cultural training	2
5. Takes care of surplus energy	1
6. Wholesome amusement	1
7. Interest in something else besides the movies	1
8. Clean substitute for less worthy activity	1
9. Boys have learned that they can entertain their friends without the presence of girls	1

TABLE VIII—MISCELLANEOUS OPPORTUNITIES PROVIDED BY CLUBS

Advantages—16		*Disadvantages—11*	
1. Discovery of special talents and interests	4	1. Lack of objective program	6
2. Interest in athletics	3	2. Too much time spent organizing and too little done	1
3. Keeping up with later developments	1	3. Some are useless	1
4. Activity for nonathletes	1	4. Superficial in meetings and not following parliamentary law	1
5. Vocational development	1	5. Too many dates and events needing money	1
6. Realization of true merit	1	6. Poor leaders	1
7. Girls' clubs take care of girls' problems	1		
8. Supplies values regular school work lacks	1		
9. Practice in worth while techniques	1		
10. A vocational training for pupils	1		
11. Physical development	1		

tent instructors is an unfortunate defect in a school system. The fact that clubs take the time and energy of teachers is also unfortunate, but these things are to be expected in any educational plan that looks toward a more desirable school product. If, however, these handicaps are taken seriously, the advantages mentioned even then seem to outweigh the disadvantages.

The amount of leisure time at man's disposal has been increasing for some time, and the indications are it will continue to increase. A necessary part of school training is that which has to do with a worthy use of leisure time. Unfortunately, however, the school has not in the past extended its influence into leisure time activities to the extent to which it should. If clubs are contributing to the development of a worthy use of leisure, they are performing a valuable function. The administrators feel that they are realizing values of this type from participation in club activities. While absolute reliance cannot be placed in observations of this type, undoubtedly there is value in learning the opinion of these administrators.

The items included under advantages and disadvantages in Table VIII could not, in my opinion, be included in the preceding tables. Some of these values have to do with the opportunities clubs offer pupils of discovering their particular interests and talents, others are strictly vocational in nature. The disadvantages listed could be overcome with little effort on the part of school officials and pupils.

Summary

1. Six hundred questionnaires were mailed to the principals and superintendents of Idaho, Montana, Oregon and Washington. Two hundred and eighty-eight replies were received. Fifty-seven out of the 288 reported no clubs of any kind in their schools.

2. The average enrollment of the 231 schools reporting clubs was approximately 125, and the range was from 17 to 2,440.

3. The total number of clubs reported by the 231 schools was 812, which is an average of 3.5 clubs per school. This is approximately one club for every 36 pupils.

4. The time of meeting of clubs varies considerably. One hundred and five met twice a month, and 60 four times a month. The remaining 98 who answered this question failed to give any definite time of meeting, or indicated that the meetings were called when needed. The time of day of meetings was answered in such unsatisfactory terms as to lead to no definite conclusions.

5. Only 115 gave estimates of importance of clubs. Three hundred and twenty-eight clubs were checked as "most important," 91 as "indifferent" and 20 as "wished abandoned." These facts indicate that administrators are giving a strong endorsement to club activities.

6. In estimating the value of clubs, the tendency seems to be to give less endorsement to subject centered clubs than to others. This indicates a willingness on the part of administrators to allow pupils more liberty in the selection of their school activities. Under this condition clubs will, no doubt, continue to be interesting and of value for pupils.

7. Relative to the development of desirable personal traits, social development, scholarship, school management and control, provision for a worthy use of leisure and miscellaneous values, administrators seem to be strongly of the opinion that the disadvantages caused by club activities are offset when consideration is given to the great values resulting from these activities.

A Science Building That Meets Present and Future Needs

The new science hall at North Texas Agricultural College provides up-to-date quarters for the courses in agriculture, biology, chemistry, physics, and temporary facilities for the engineering department

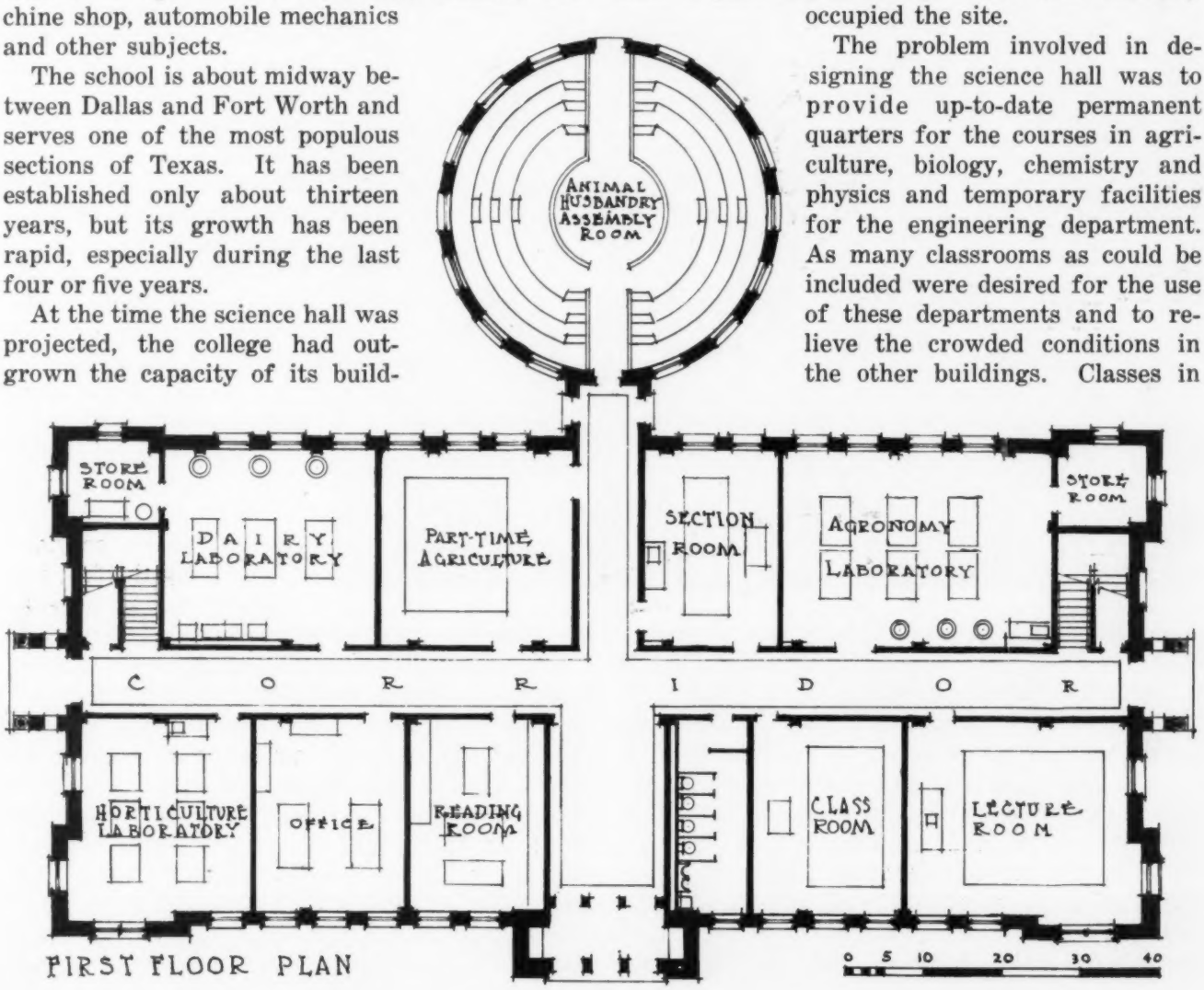
By EUGENE DAVIS, Architect, Dallas, Tex.

NORTH Texas Agricultural College, Arlington, is a junior branch of the Agricultural and Mechanical College of Texas. Its curriculum includes two years of high school work, two years of standard college work and vocational courses in agriculture, electricity, welding, machine shop, automobile mechanics and other subjects.

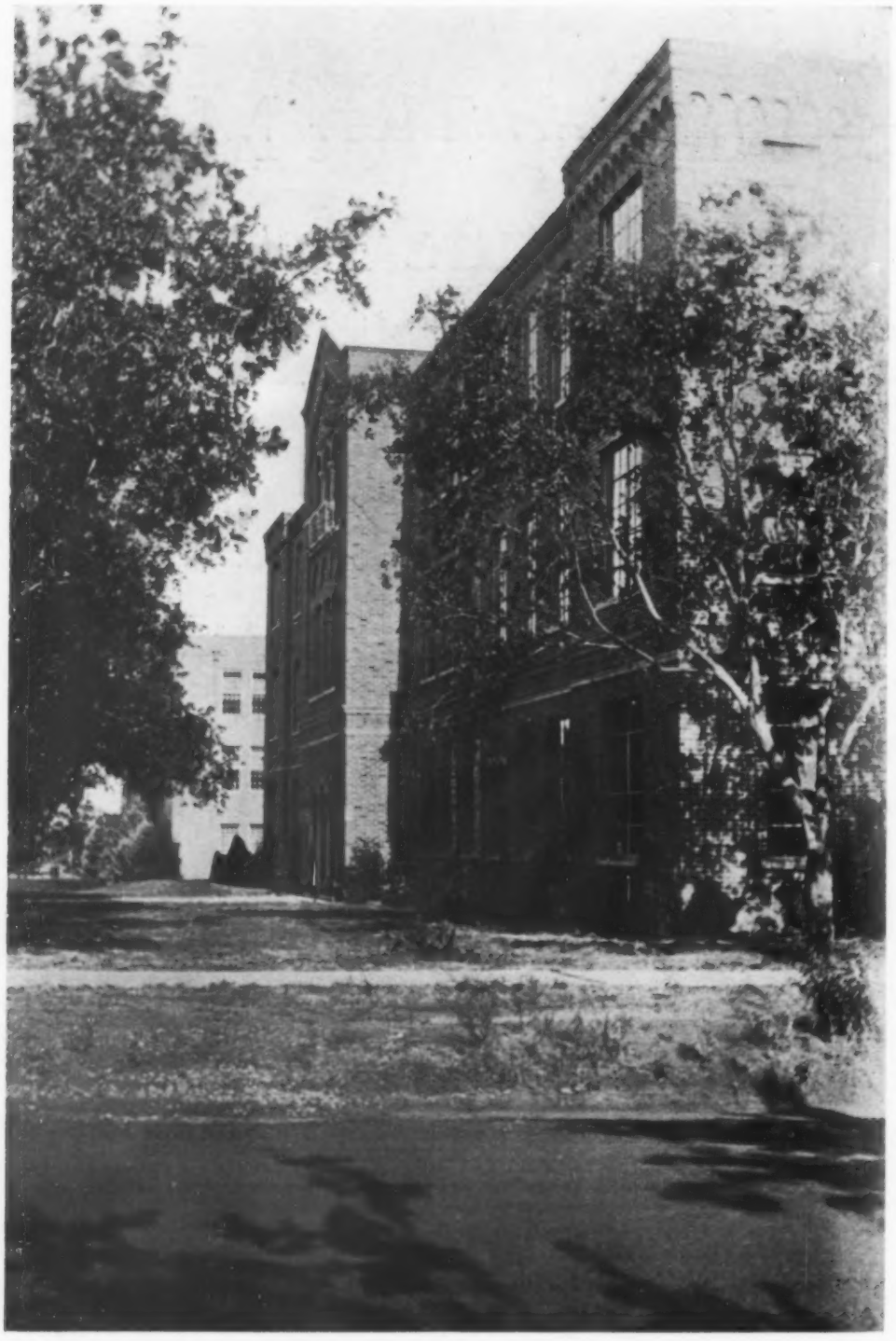
The school is about midway between Dallas and Fort Worth and serves one of the most populous sections of Texas. It has been established only about thirteen years, but its growth has been rapid, especially during the last four or five years.

At the time the science hall was projected, the college had outgrown the capacity of its buildings. The chemistry, physics and biology departments occupied a part of the administration building. The engineering department was housed in the shop building, and the agricultural department in a portion of an old barrack which had been a part of a military school that formerly occupied the site.

The problem involved in designing the science hall was to provide up-to-date permanent quarters for the courses in agriculture, biology, chemistry and physics and temporary facilities for the engineering department. As many classrooms as could be included were desired for the use of these departments and to relieve the crowded conditions in the other buildings. Classes in



FIRST FLOOR PLAN



The new hall follows a Romanesque design, which links it with the main building, seen in the background.

other subjects were expected to use the rooms when they were not occupied by the departments to which they were assigned.

The appropriation had been made by the legislature and a fixed sum of money was available for the building. The next step was to determine the approximate size and type of structure that could be built for the funds on hand and to allot the space to the various departments according to their needs. A survey was made to determine the requirements of each course and the proportion of space to be assigned to each department, taking into consideration the probable future increase.

As a result of the investigation the agricultural department was established on the first floor and was given all of this floor except one lecture room and one classroom. The chemistry department was placed on the second floor and was assigned one-half of the space on this floor, and the lecture room on the first floor. The biology department was allotted the other half of the second floor, and the physics department and the engineering department divided the third floor, engineering being given the north half and physics the south half. This arrangement provides ample space for growth in all except the engineering department, which, as has been mentioned, is not permanently placed in this building.

Since agriculture is an important industry in north Texas, complete facilities were provided for teaching the first two years of college work as given in the standard agricultural colleges.

The animal husbandry assembly room was designed as a lecture room and as a laboratory for veterinary surgery. Its circular form permits excellent lighting and ventilation and brings all the students close to the instructor so that demonstrations can be seen readily from any seat. Live stock can be brought in by the rear door, and a ring is provided in the ceiling from which a block and tackle is suspended, by means of which a carcass may be handled for demonstration purposes. Fans were installed so that the room is comfort-

This view of the side entrance shows the pattern of the brickwork, done in brown with touches of red.

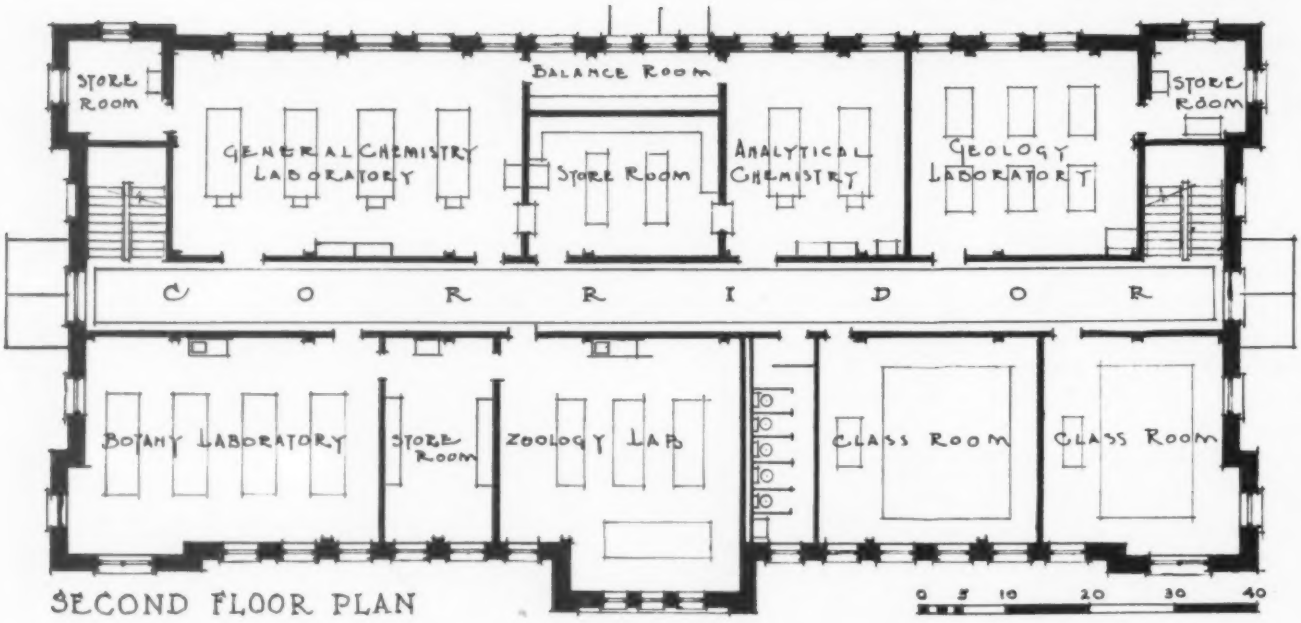
able for summer school. Special attention was given to artificial lighting and the room may be used for night classes. The floor is cement finish and slopes to a drain in the center of the arena so that it can be cleaned with a hose.

The laboratory provided for dairy husbandry is equipped with electrically driven cream separators and churns, sinks for cleaning bottles and apparatus, and tables for making tests of milk, butter and other dairy products.

The agronomy laboratory is equipped to make soil tests, having motor operated soil separators. Other facilities of the agricultural department include a horticulture laboratory, a vocational agriculture lecture room with a demonstration table, a section room for poultry husbandry, an office and a reading room. Cement finish floors with drains were placed in the dairy laboratory and the section room, so that they may be easily kept clean. The laboratory tables have gas and water connections. During the summer months the agricultural department uses the mechanical drawing room on the third floor for its course in cotton classing. A skylight was placed in this room to make it suitable for this purpose.

The biology department has a laboratory for zoology and one for botany with a storeroom between which also serves as an instructors' office. These laboratories are equipped with tables supplied with electricity, gas and water. Other equipment includes sterilizers, stone sinks, specimen cases and microscope cases. A wood floor was used in the zoology laboratory and an asphaltic tile floor in the botany laboratory and in the storeroom. Some trouble has been experienced in this locality with a parasite that destroyed the wood floors of botany laboratories. For this reason it was decided that the asphaltic floor would be more satisfactory than wood.

The chemistry department required a generous amount of space because of the large number of students in all departments who were required to register for chemistry. Since general chemistry

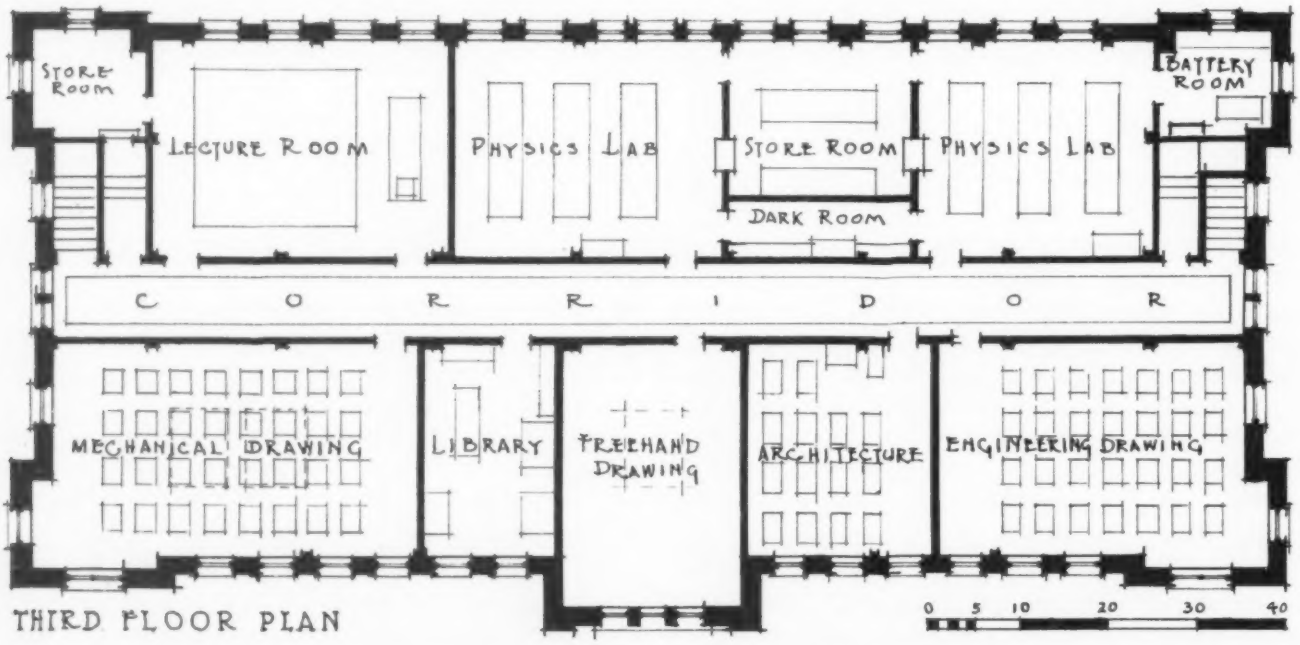


The chemistry department occupies one-half of the space on the second floor.

was more in demand, a larger laboratory was provided for this work and a smaller laboratory for analytical chemistry. Both laboratories have the usual equipment with alternating and direct current, water, gas and compressed air on all tables. Built-in fume hoods are provided along the inside walls. Between the two laboratories are a balance room and a storeroom. The balance room is next to the outside wall where the light is excellent. It is equipped with a concrete balance table which is sufficiently heavy to minimize the effect of vibration on balance readings. The large storeroom with wickets opening into each laboratory has ample storage space for materials, supplies and apparatus. The chemistry department lecture room on the first floor is equipped with a demonstration table and an outlet for a stereopticon.

The geology laboratory serves principally as a museum at this time, although it is equipped for laboratory use. Cases contain a creditable collection of material, most of which is of local origin.

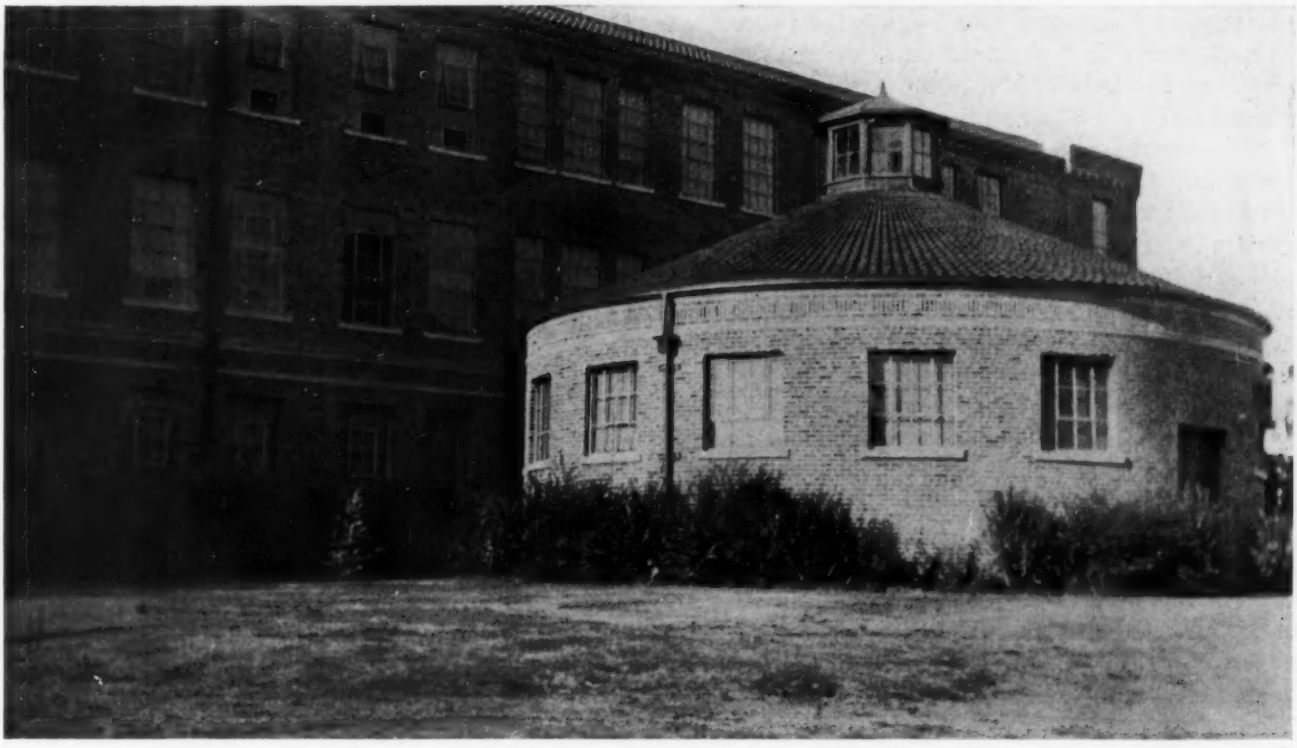
The physics department occupies two laboratories and a lecture room. Between the two laboratories is a storeroom opening into both and a dark room that is also accessible from either laboratory. A motor generator set and storage batteries furnish direct current to all tables. In



The physics and engineering departments share the third floor.

addition to the direct current the tables are supplied with alternating current and gas. Special panel boards have been built by the department so that it is equipped to conduct any experiment coming within the field of work given by a junior college.

The engineering department occupies the mechanical drawing room, library, free-hand drawing room, architectural drawing room and engineering drawing room. These rooms are designed after the manner of classrooms and lecture rooms so that no change will be necessary to adapt them to other uses when the engineering department moves to its own separate building.



The circular animal husbandry room is at the rear of the science hall and is connected to it by a passageway.

The building is equipped with ceiling fans because in this climate it is usually warm both in the fall when school opens and in the spring from April on.

No offices were provided in the science hall except in the agricultural department. The space that would have been assigned to offices is needed for classrooms until additional buildings are erected. With the removal of the engineering department, some of the smaller classrooms will be converted into offices for the faculty.

In designing the exterior of the science hall several things had to be considered. The plot assigned to it was next to the administration building, and on the other side of the administration building was the dining hall. The administration building is a structure of smooth light brown brick of almost uniform tone, trimmed with limestone. The dining hall is of light red brick intermingled with brown tones but giving the impression of a predominantly red building. In Texas the skies are a brilliant blue and under the bright sunshine, color values of the landscape are intensified, so that a building without color becomes dull and uninteresting by comparison. It seemed desirable to harmonize the new building with the other two and at the same time to give it enough color to enliven the effect of the group without detracting further from the administration building, which is totally lacking in color. To obtain the effect desired, a ground color brick of rough texture was chosen, similar to the color of the administration building. To this ground color were added some bricks of darker brown in varying shades, a few in lighter brown and a small amount in red, chosen carefully to tone in with the darker brown.

Color Is Effectively Used

Native limestone was used as trim. The amount of carved stone used was strictly limited by available funds, so a belt course, the entrances and the third story windows on the façade were worked out in a simple Romanesque design, to provide a link with the administration building. A wrought iron balcony, painted pale green like the window frames, adds a touch of color to the front and a red tile roof provides a bit of brilliant color that is needed to complete the picture. The Italian

device of arches on corbels, a saw-tooth course and slight projections in the brickwork give a pleasant effect of light and shade. The effect is fresh and vigorous and at the same time is in harmony with the other buildings of the school group.

Fortunately the number of bricks used was sufficiently large so that the color blending could be done before shipment from the brick plant, and little choice in the matter of color was left to the bricklayers. It is often difficult to carry out a color blending in brick because of the tendency of the brickmasons to work to a pattern. The difficulty was entirely avoided in this case by preparing a sample panel from which the percentage of each shade and color was determined, and the blending throughout the building was then done according to these percentages.

The science hall is fireproof except for wood doors and trim and some wood finish floors. It is a reenforced concrete frame structure with pan system floor joist construction. Metal lath attached to the joists forms the base for the plaster on the ceilings. The face brick is backed with hollow tile with a 1-inch air space between the brick and the tile. The stone is laid in white cement mortar and the brick and tile in a cement and lime mortar. The corridor partitions are clay tile and the partitions between the rooms are of gypsum block. The gypsum block has the advantage of being light and fairly soundproof.

As the animal husbandry assembly room is a one-story structure, attached to the main building only by a passageway, it was constructed with bearing walls. The roof is framed with steel beams, attached with bolts to a concrete spandrel beam on top of the wall. From the spandrel beam, the steel slopes up to a 6-foot steel ring upon which the lantern rests. Rib lath is placed on the steel framing and a roof slab of concrete, conical in shape, is formed on the lath. The roofing material is red Spanish tile.

Roof Treatment Is Interesting

All of the sheet metal work used for flashings, gutters, downspouts, and the like, is copper. Copper nails were used to secure the tile roofing, and the lantern in the animal husbandry assembly room is of copper.

The roof of the main structure is flat except around the outside where the tile shows. The tile covers what is really a hollow parapet of triangular section. This triangular space serves for the overhead distribution of the steam heating system. It is provided with steel windows at the back for ventilation and is lighted with lamps controlled by a switch on the third floor.

The main roof deck is constructed in a manner similar to the construction of the floors. The drainage is accomplished by grading with cinder fill to two downspouts at the rear of the building. Over the cinder fill is a 1-inch topping of lean cement mortar. On the topping is laid 1 inch of cork board mopped to the slab with asphalt. A built-up roofing is laid on the cork board. The skylights in the mechanical drawing room and the free-hand drawing room are built of concrete with ribbed wire glass in steel frames. The skylights face the north, making an angle of 60 degrees with the horizontal. By placing the skylights at an angle and facing them north, the direct sunlight is avoided. The sash set in the ceilings of the rooms is glazed with obscure glass. The light obtained is soft, uniform and without glare at any time of day.

How Insulation Was Effected

The insulating value of the various materials that compose the roof and its effectiveness as a whole have been measured. To accomplish this, insulated copper wires were placed on the roof deck, on the cinder fill and on the cork board. The wires were carried down to the physics laboratory and attached to terminals. The resistances in the wires were measured to determine the temperature at the various points. Tests have shown that the temperature of the under side of the roof slab does not vary more than 2 or 3 degrees from room temperature under the most severe conditions of heat and cold so far experienced. The cork board insulation has proved effective in stopping the flow of heat through the roof. By this system the necessity of constructing an attic for insulating purposes was avoided at a considerable saving in cost.

Only a few items remain to be mentioned, among which are the interior trim and finish. The baseboards, doors and trim are plain sawed oak, stained silver-gray and varnished. The walls are painted light gray so as to reduce any tendency to glare but at the same time are light enough so that the absorption of light is negligible. The ceilings are white, toned with the same gray.

The corridors and stairs are finished in terrazzo, all of the corners being coved on a radius large enough to prevent dirt from collecting in them.

Instead of marking the room numbers on the doors as is sometimes done, a wrought iron bracket with a small sign showing the number of the room and its use was provided for each room.

The science hall was completed in August, 1928, and cost 29.6 cents per cubic foot, exclusive of architectural fees and equipment.

In Defense of the Business Manager

Arguments in favor of the dual system of school management are given here by one who has carefully studied both the unit and dual plans

By JOHN B. WYNKOOP, Business Manager, Board of Education, Bridgeport, Conn.

THE public schools exist for the training of our youth in citizenship for democracy. There can be no greater mission. Beyond this anything we add is of a material nature in personal gain for individual groups.

The two great factors in any school system are the personnel and the physical plant. The three leading elements involved in the personnel are the administrative, the executive and the teaching corps. The duties of each are well defined by rule and law. The board of education, the school committee or the district school board is elected or appointed by the citizens of a community to represent their interests and to formulate administrative policies. Next in importance is the executive department, with which this article will deal.

There have been many discussions pro and con as to whether a school system can best function under the unit plan of operation, which provides for only one supreme executive head, the superintendent of schools, or under the dual plan, which provides for an additional executive known as the business manager, with both directly responsible to the board of education. Although the burden of the argument has favored the unit plan, no concrete case has ever been cited to show that the dual plan has proved detrimental to a school system.

The Real Head of the System

An all important point that is lost sight of in the entire controversy is that the administrative group, commonly called the school board, is the supreme head of any system and that superintendents and business managers are in a secondary position in the whole scheme of things.

Here, then, is the logical place to ask two important questions: What is a superintendent of schools? Why should the school system have a business manager?

The superintendent plays the more important rôle in the public educational program. His calling is the greatest of all professions, because he directs by means of the curriculum and through vocational guidance the youth of the community into worthy professional and commercial pursuits.

What a Business Manager's Work Involves

The major duties of the school superintendent are strictly professional and involve instruction, including the promotion of educational policies, the formulation of methods of teaching, the construction of the curriculum and the selection and supervision of that great personnel known as the teaching corps. He also supervises the selection of equipment adaptable to the proper execution of the educational program. In addition to these duties the superintendent must either delegate the operation of the physical plant to another, responsible to himself, or he must be content to let another executive assume that responsibility.

Here arises the question concerning the employment of a business manager. Why cannot this executive assume the duties that require an educational setting and transact the affairs of his department with those by whom he is employed? The organization of a business manager's duties and responsibilities may be outlined as follows:

1. He must supervise all employees in the business department of the administrative offices, all engineers, the custodians and superintendents of buildings, the department mechanics, the electricians, the plumbers, the carpenters, the painters, the delivery men and the warehouse employees. Cafeteria, lunch room and department supervision comes within the scope of his duties.
2. He must control all finances, accounting and insurance.
3. He must be responsible for the purchase and

distribution of all supplies for all departments.

4. He must supervise the maintenance, repairs and improvements of all buildings, grounds, equipment and heating plants.

5. He must supervise all building construction as to capacity and the curriculum layout as presented by the superintendent of schools and approved by the board of education.

The business manager in many communities often performs other duties not prescribed by rule, for which he receives little commendation for meritorious performance. The most outstanding of these frequently occurs in school systems in cities having a population from 30,000 to 300,000. Here the business manager enacts the rôle of contact or key man between the department of education and the public at large, especially its business interests. Demands frequently are made by these business interests upon board members, who all too often acquiesce in these demands when funds are not available. Another experience that frequently comes within the scope of the business manager's activities is the demand of the superintendent of schools for expenditures when there are no funds available or when the appropriations are exhausted or were not anticipated at the time the annual budget was compiled. To compile a budget requires a thorough knowledge of the needs of the enterprise. It requires careful study and skill, which are the result of experience.

The possession of a diploma awarded for the diligent pursuit of academic knowledge or the possession of a summer school certificate awarded for attainment in professional studies does not by any means guarantee to the school man a knowledge of even ordinary business practices or the right to be immediately recognized as an executive.

Experience Versus *Experiment*

Business and professional minds seem always to conflict. They arrive at conclusions from varied angles, the former by experience, the latter by experiment.

There are those who believe that the executive known as the business manager, regardless of his experience and training, must either be subservient to the superintendent of schools or must not be allowed to exist at all under such a title.

It is further assumed that state educational laws permit the overdrawing of funds available so long as they are used to expand the curriculum and if it can be proved that additional members of the teaching corps and materials are needed to carry out the program.

In Connecticut, most school laws contain plenty of "ifs," "ands," "buts" and "maybes" and are loosely constructed. In many other states this same condition exists and provides no appeal one way or the other to the state commissioner of education in any case involved. There are, of course, some exceptions to the rule, but this condition pretty generally exists and forms a bone of contention between the superintendent of schools and the business manager in those systems where the dual plan is in use. Such a condition opens the channels by which the public criticizes the cost of education. Sentiment does favor a sound business administration in the conduct of its schools.

Achievements the First Consideration

The business manager in any public school system is an agent whose function is to help obtain for the children of the community the training that will enable them to meet successfully the problems of life. This is his only goal. If he has any other he is just another taxpayers' burden. The good school superintendent or business manager, will be more content with his achievements than with his remuneration. His job in the field of education does not exist for any material gain but solely to train the youth of to-day for the tasks of tomorrow. In the performance of this task it is of little importance whether one man is known as the chief executive or whether he is coordinating with another so long as the same ideal is in mind.

He is a poor business manager who cannot serve either under or with a Stetson of Indianapolis; a Bickett of Trenton; a Cody of Detroit; an Oberholtzer of Houston or an O'Shea or a Campbell of New York City.

He is a poor superintendent of schools who cannot serve with a Mills of Houston, a Womrath of Minneapolis; a Chambers or a Miller of New York City; a Gadd of Detroit or a Record of Los Angeles. An outstanding example of coordination in this country between the administrative and the business offices will be found in the school system of Houston, Tex., where Dr. E. E. Oberholtzer is the superintendent of schools and Hubert L. Mills is the business manager.

In my long experience here in the New England field I have had many problems to meet and my solutions of them have not always met with favorable comment, especially from various superintendents of schools. I do not believe it is in keeping with his professional status for a superintendent of schools to climb a ladder to fix a shade that the custodian refused to fix; nor is it his job to try to fire a heating plant that is defective and to dismiss the custodian for inefficiency; nor is it within his professional standing to take home loaves of bread to have his wife tell him which is the best baked because some supervisor of manual training claims to have broken a defective tooth on the crust. Prob-

lems of this kind are matters of business. It is the business manager's job to fire the custodian who is insubordinate, regardless of whom it hurts. It is his job to see that there are no defective heating plants. As to testing the crust of a loaf of bread, the cafeteria manager is the best judge.

A summary of this article, then, may well emphasize the following points:

The superintendent who confines his activities to applying the curriculum to the student group, thereby raising the educational standards of the community, and leaves the physical operation of the school plant to the business manager will realize fewer college board failures, cleaner and better school buildings and fewer financial deficits.

The arguments that a dual system is detrimental to a school system are unfounded and have yet to be proved. The commission or board that represents the citizenship of a community is the administrative head of any school system, and the superintendent of schools and the business manager are both subordinate to them. Both have equal rights as executives.

The training of the child should be the ultimate goal of both executives, one to impart knowledge and the other to supply the proper educational setting, through proper sanitation, cleanliness and orderliness, pleasing physical surroundings and the proper care of valuable school property.

While the business manager has but recently come into his place in the sun, yet I believe he will stay so long as he climbs to heights that place service for others above self. Many such officials do exist and they have the right to be considered independently by their employers regardless of any defenseless contention to the contrary.

Transforming School Failures Into Apt Pupils

How sixty-five motor minded children were transformed from school failures into apt pupils at a special clinic at the University of Oregon held during the summer, is told in the *Journal of Education.*

These children, all of whom had failed in reading, spelling or arithmetic, were taught by the kinesthetic method or through their muscles, instead of by the usual visual or auditory methods. To teach a child to read and spell the clinic teachers first found a subject that interested him, then wrote some word connected with it on paper in large plain letters. The child traced the word carefully with his finger until he thought he could write it without the help of the model. At the same time he said the word. Sometimes in the beginning the process had to be repeated from fifty to a hundred times before success came. As soon as the child learned to make the association through all these ways at once by writing it, by seeing it, by hearing it and by saying it, the tracing was discarded.

When once these apparently backward children did learn they were often superior. It has been found that some normal children have the visual and auditory paths blocked, and cannot acquire knowledge in that way. Children of this type become timid and inhibited because they cannot learn. It is in such cases that the kinesthetic method is effective, according to the clinic heads.

The clinic was established three years ago as an experiment by Dr. Grace Fernald, University of California, and Dr. B. W. DeBusk, University of Oregon.

The Junior High School in a Program of Integration

Educators in the school cities of Indiana are now at work on a program of integration of all school work in the twelve grades, with an idea of providing more ready pupil achievement with greater economy of effort and consequent freedom for an enriched and more extended offering. One of the problems in the process of integration is the junior high school. In this connection the educators are bearing in mind the decalogue of the N.E.A., which points out that the junior high school is distinguished by these characteristics:

A separate building in which the seventh, eighth and ninth grades, or at least two of these grades, are housed.

A separate staff of teachers.

The recognition of individual differences in capacities, tastes and purposes in the organization and conduct of class work.

A program of studies differing from the course of study to be found in the like-numbered grades of the traditional school in America.

A partial or complete departmental organization of subject matter and teaching.

The organization of a limited number of curricula.

A definite and effective plan of pupil guidance.

Certain elective studies to be chosen by pupils under guidance.

Promotion by subject.

Organization and administration of pupil activities in accordance with the needs and interests of adolescent pupils.

In Defense of Unit Organization

That school systems, like industrial concerns, must have one executive to whom all others are responsible if efficiency is to be maintained is the thesis of this article

By PHILIP C. LOVEJOY, Formerly Assistant Superintendent of Schools, Hamtramck, Mich.

IN A large school system there is every reason to assume that some individual is needed to handle the voluminous details of the business affairs of the system. This person may be called business manager, business executive, business secretary, director of finance or any one of a dozen other titles.

The title is not so much our concern as the organization of the school system to obtain the greatest amount of instructional efficiency, for indeed there is but one supreme function of a public school system—the instruction of its pupils in such a way that they may live successfully in this democracy of ours, call it training for citizenship or what you will.

In educational circles there seems to have grown up around the term, business manager, a connotation signifying that the individual in charge of business affairs must be directly responsible to the board of education. In other words, systems with business managers must be of the dual or multiple type, with the executives directly responsible to the board of education.

What State Laws Show

While this connotation may be admitted by those most interested, a perusal of state school laws does not provide substantiating evidence. Specific mention of a business officer is made in but nine states—Illinois, Indiana, Kentucky, Michigan, New York, New Jersey, Oklahoma, Pennsylvania and Washington. In eleven states administrative relations between various educational executives are defined. In six of these the business executive is responsible to the superintendent, while five—Illinois, Indiana, Kentucky, Pennsylvania and New Jersey—make him directly responsible to the board of education.

In some cases where the law makes no mention of the relationship the board may hold various individuals directly responsible to it. In seven states of the Union there is permissive legislation relative to the employment of business executives—"and may appoint such other individuals as are deemed necessary." Thus in not more than sixteen states are the arguments concerning dual or unit systems pertinent.

All of us are familiar with the three major types of school organization: the unit type in which the board employs a single responsible executive; the dual type in which the board employs a superintendent and a business executive, coordinate in rank and each directly responsible to it; the multiple type in which the superintendent of schools and two or more business executives are of coordinate rank, each directly responsible to the board.

How the Dual System Developed

The question under consideration therefore, is, Which of the three types of organization is the best? The answer must rest on facts concerning which system will in itself promote the greatest efficiency. It is not answered by claims of harmonious personalities refraining from engendering conflicts that might arise under the type of organization employed. Basically the question is one of centralization or decentralization of control.

Possibly before such a discussion is begun it might be well to review briefly the rise of the dual type of organization. In the early days citizens in open caucus planned and managed schools. The increase in numbers made it necessary for them to elect a school committee to do this work. Again as enrollment increased this school committee developed committees of its own members, and still later numerous duties made it imperative that a secretary be added to handle the many arduous details. Thus early boards of education were administrative. The secretary of the board developed into the business manager who naturally was made responsible directly to the board. Later, as instructional problems became complex, a superintendent of schools was employed, primarily to care for the instructional work of the system. A dual organization was the result. The dominant educational philosophy of the time, formal discipline, offered

no conflict between the business and the educational departments. Buildings were not differentiated and equipment was meager. Thus as the years rolled on, the dual system of control developed.

Suddenly a new philosophy of education developed. Educational costs mounted. Committees began to investigate the organization of the schools. Could it be that the dual system was the cause of inefficiency?

Several reports were made on this topic. The finance commission in Boston made a report in 1915 to the effect that "the best interests of the public school children of Boston demand that the office of the superintendent of schools shall be a strongly centralized office. The present organization . . . is not the best to produce efficient results. The best business practice not only in large corporations but in educational administration supports the idea of the centralized executive." In Milwaukee in 1921 the citizens' bureau reported: "The proper type of organization and the one recommended in every recent responsible book and survey in cities such as Boston, Portland, Denver, Salt Lake City and Minneapolis . . . is one that places the superintendent as the executive head of the entire school system. . . . What is apt to happen in Milwaukee is what always happens when the business department of the board of education is made entirely independent of the education department—that the business department will eventually come to regard its work as an end in itself. . . . Such a system causes the board of education to change its function from legislative to administrative since it will have to direct, coordinate and reconcile the work of two officials." In Cleveland in 1922, the general committee stated that "the absence of a single-headed executive control of the schools is the outstanding defect in this school organization and our three-headed executive organization is the cause for the major criticisms of public school management."

Yesterday and To-day

These and similar reports recognize that educational conditions are considerably different from those of our forefathers' days. To-day we have a highly complex system because the public has made many additional demands upon its schools. To-day we seek the integration of personality as the product of our schools. While the objective is single in purpose the methods of achievement are legion. Buildings are highly differentiated, equipment is complex and supplies are highly specialized. To obtain efficiency through this mass of detail it has become necessary to make complete studies of educational organization.

There seems to be a tendency for boards of education to relinquish functions of administration and become legislative or policy making bodies, for as Lent D. Upson, director, Detroit Bureau of Governmental Research,[1] says, "There must be complete divorcement in the public mind of policy determination from the actual administration of policy."

The Example of Industry

M. R. Keyworth, superintendent of schools, Hamtramck, Mich.,[2] states that in every activity there are three definite functions—planning, executing, and appraising. Strong competition has caused industry to proceed faster and more efficiently than public enterprise. Schools in particular have developed by a sort of hit-and-miss evolution. Expediency has been the determinant. Efforts have been made to obtain results with the least friction at the moment. On the contrary industry has been more efficient through necessity. In industrial organization is found the specialization of work in departments on a functional basis and efficiency and coordination are achieved through a unified and centralized control. The board of directors authorizes what is to be done, without doing it. It delegates the doing to an executive called the general manager. The board holds him and him alone responsible for results. Realizing that one man has limitations both in knowledge and capacity, the board provides him with necessary assistants, all responsible directly to him. Efficiency is obtained through unity; through the centralization of control; through a definition of function; through the specialization of the work; through a delegation of responsibility in straight lines and through a coordination of work through the staff. Unity of purpose promotes unity of organization. There is no opportunity for basic conflicts.

Analogously, then, it may be said that if schools have but a single purpose they must have also unity of control if efficiency is to be achieved. The board of education may expect efficiency if it sets up two or more executives coordinate in rank, but it trusts human nature too implicitly if it demands perpetual harmony under such an organization. The board, composed as it is of laymen, admits that it knows little or nothing about the techniques necessary to achieve the demanded results. It therefore secures the best individual available within its salary scale to put its policies into effect. If the job is complex, it provides competent assistants. It recognizes the fact that business executives are essential, that they contribute much to the facilitation of the instructional process, but it expects them, along with all others in the system, to be

[1] Upson, Lent D., Practice of Municipal Administration.
[2] Keyworth, M. R., Functional Organization and Research.

responsible to the one general manager who is called the superintendent of schools.

Many business executives will admit that this superintendent holds the most important place in the system in that he is charged directly with its instructional activities. They are not so ready to concede that all functions of management are directly involved in the instructional process. Coal is burned to facilitate instruction. Buildings are cleaned for the same purpose. Supplies are purchased with that end in view. Maintenance employees assist in the advancement of instruction. Is it not necessary, therefore, to give the individual who is charged with the promotion of educational policies full authority to coordinate the entire system? Who shall determine the type, quality and quantity of educational supplies to be purchased? If the business manager does this then he is in effect taking on a phase of the instructional process and hence assuming one of the duties of the superintendent.

Since it is admitted that this process of instruction is highly technical and that instructional specialists must determine what is needed it seems only proper and fitting that the business manager or purchasing agent should accept the delegation of his duties from the superintendent of schools. If this is not done then the opportunity for constant conflict is presented. If the business manager assumes the authority for determining the quality of the instructional supplies and instructional results are poor, then who is to blame? An example of this is the business manager who purchased a large quantity of writing paper at a great financial saving. The following semester instructional results dropped several points; the paper was of poor quality. The business manager had erred by stepping out of his field.

What One Study Revealed

In times gone by it was frequently true that the superintendent knew little about business matters. This has been rapidly changed by means of practical training. It is still assumed, however, that the superintendent is entirely professional and knows little or nothing about business. The opposite has not been stated with equal clarity—that frequently the business manager knows little of education or its techniques. Dr. Amos L. Heer, Ohio State University,[1] found in a study of 104 school business executives that the median training was but one year in college. Only one in three had spent four years in college and only thirty were listed as holding degrees. Only sixteen had done any graduate work. Furthermore only thirty-six had had previous experience as school employees and of these, seven had had more than twenty years of such school experience before they became business managers. Most of the previous training listed had been in office work, accounting and business experience, as industrial executives, purchasing agents and the like.

[1]Heer, Amos L., Present Status of Business Executives.

The Advantages of Centralization

The preparation of the school budget is a task that involves the most fundamental of educational needs and instructional techniques. The educational leader of the schools must determine these educational needs in accordance with policy, and it is his function to see that a proper budget is constructed. Naturally in the larger schools it is necessary for this work to be delegated as far as detail is concerned. Since the superintendent is directly responsible to the board for the efficient management of the schools, surely as far as instruction is concerned, which by the way involves the major portion of school costs, he is going to see that educational economy is achieved. He himself will become the watchdog of the treasury.

In the delegation of function in a unit system, it would not seem that any one person is demanding subservience. All that is required is cooperation. Authority is delegated in straight lines. Each has his part to play. The principal is responsible within his own building for all phases of activity.

There has been no intention in this article to offer a criticism of the business manager. Rather there has been an attempt to present a concrete statement showing that efficiency in any type of administration can result only through centralization. Modern educational philosophy implies an integrated school system functionally organized.

Eminent educational writers advocate, and the majority of business practices and researches all point to a unit organization. Only by this type of organization will education develop to its fullest extent. Undoubtedly a business executive or manager will always be necessary in the larger systems but he, like other agents, should be nominated by the superintendent and should be responsible to him. He may be called an assistant superintendent, although the title is immaterial.

The business executive needs to be trained in the best practices of public school finance, inasmuch as these differ somewhat from those of industry. He should have an educational point of view and should be required to have a state teaching certificate the same as the superintendent. By joining the National Education Association, business executives would indicate their interest in the instructional side of the educational system.

We need the business manager but for efficiency we must have a unit system of organization.

Transportation Methods That Succeed in Michigan

By DR. M. S. PITTMAN, Director of Teacher Training, Michigan State Normal College, Ypsilanti

This department of rural education is conducted by Helen Heffernan, chief, division of rural education, state department of education for California, Sacramento, and president, department of rural education, National Education Association.

WITH the many virtues and advantages of the consolidated school there go also some problems. One of the most baffling is that of pupil transportation and the administration should give it thoughtful and continuous attention.

Fear of the danger involved in transportation is difficult to dispel from the minds of parents when the campaign for consolidation is in progress. Although every family in the proposed consolidation district may have its own automobile, which, while transporting the entire family of ten, may be driven by grandpa in his decrepitude, by fourteen-year-old Johnny in his recklessness or by mother holding baby in her arms, nevertheless a wail goes up to the effect that transportation in school busses is the surest means of increasing child mortality. Although fathers all over America are daily driving their automobiles into the sides of freight trains, into ditches, against trees and into rivers, causing the death of their entire families; although school busses are required by law to "stop, look and listen" before crossing railroad tracks, and although school transportation facilities have the highest safety record of all transportation facilities in America, nevertheless some parents still have grave fears.

School transportation is expensive and expense brings nervous prostration to the terrified Amer-

The fleet of busses that transport pupils of the Lincoln Consolidated School near Ypsilanti, Mich.

ican taxpayer. Of course school transportation is not nearly so expensive as private transportation but the expense of the one is paid by a system of public taxation while the other is a matter of personal indulgence and private expenditure. No complaint is made however expensive our personal indulgences are, but the welkin rings with outcries when the question of taxes arises. For that reason the item of expense is of prime importance in connection with pupil transportation.

Danger and expense are not the only dragons that beset the path of transportation. Inconvenience is another that crouches by the wayside ready to make its demands. Parents whose children have been walking two miles each way to school every day of their school lives will suddenly decide that their children must not walk even a quarter of a mile down to the main highway. Instead, they will insist that since the bus calls at some homes it must call at all homes regardless of how muddy the lane or how impassable the road. These parents will argue that if this is not done, their children will be drenched with the rain or frozen in the winter's chill while waiting on the highway for a bus that may not come until "goodness knows when."

Another objection often encountered is that bad discipline prevails on the school bus. Profanity, obscenity, ill-temper, tattling and violence are always predicted. While loitering, muddy feet, torn clothing, bloody noses and bespattered reputations have characterized the footpath of children from the school to the home throughout the history of American rural elementary education, nevertheless the school bus is feared as a place far worse than the old footpath of the past and the present.

Add to these four strong objections a fifth—that of poor management of the transportation system—and we have the five great objections that are urged against this one phase of the consolidated school.

These objections force any administrator to recognize that the possibility of truth in each objection justifies his giving close attention to all of them. There is rarely as much danger in any proposal as the opponents of the proposal imagine, but the fact that someone sees possible danger is sufficient reason for the proponents to be patient with objections and cautious lest the prophets of doom are justified. Like most of the ills that we conjure up, the ills of school transportation rarely materialize. They do not occur because administrative foresight and attention to details have forestalled them. Possibilities of ill are not probabilities by any means. Possibilities for ill nearly always carry twin possibilities for good. This is true in the case of pupil transportation. A concrete case will do more to establish the truth of all of these points than would pages of data or many generalities.

Just south of Ypsilanti, Mich., is the large Lincoln Consolidated School. It is attended daily by 650 children who receive instruction from the kindergarten through high school. They all ride to school daily in seventeen large school busses. They are collected from an area of sixty-three square miles of farm territory that was formerly served by thirteen one-teacher rural schools and three neighboring high schools that lie outside of the present school district.

These pupils are the school bus officers who see that discipline is maintained aboard the busses.

Eight years ago when consolidation was under consideration in this area, all the objections set forth above were strongly urged, plus others that do not logically deserve consideration here. Today, none of those objections is ever urged, and

the following paragraphs show how they have been overcome.

It has been shown that school transportation is not dangerous because the following precautions have been taken to guarantee safety to every child: Only the safest drivers are employed or retained; no bus is permitted to travel faster than twenty-five miles per hour; no railroad crossing is ever made until the "safety patrol" has placed himself on the track and has signaled the bus, which has already come to a full stop, to cross the track; the front and the rear doors of the bus are under the control of the driver; no child is permitted to board or dismount from the bus while it is in motion; there is a definite and thoroughly understood procedure of entering and leaving the bus. As a consequence of these precautions no accidents of any consequence have occurred from school transportation during six full school years.

The bus drivers are as efficient and well organized as a police force.

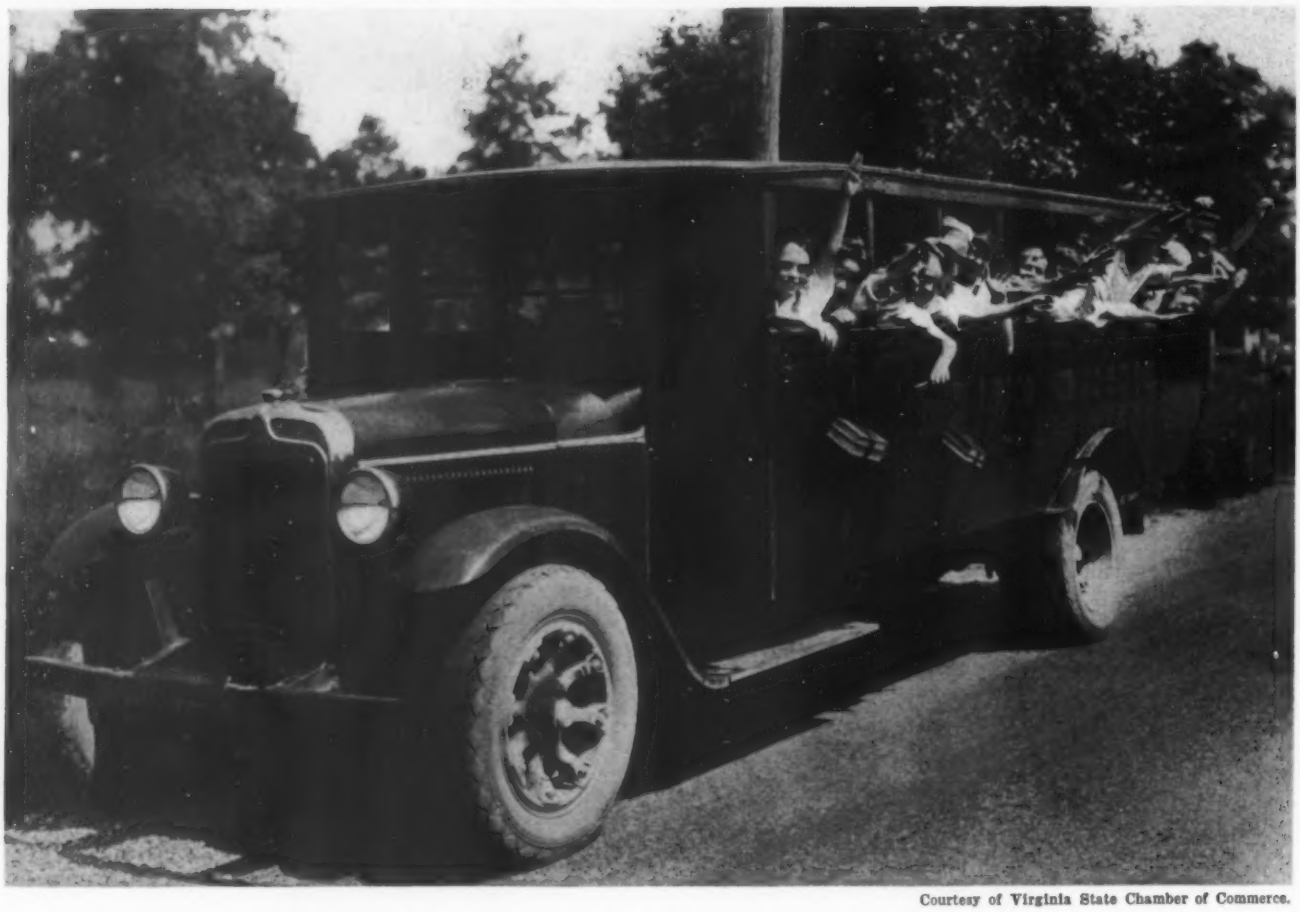
There have been a number of deaths and many injuries in the school district within the past six years due to accidents caused by privately owned automobiles. During the same period the school bus has made 1,638,000 pupil trips and there has been only one mashed finger. This record silences all objections. While there were 1,638,000 opportunities for tragedy, not one occurred.

It is true that pupil transportation is expensive. All transportation is expensive. There are 300 private automobiles in this school district. It is a conservative estimate that each of those automobiles costs its owner $400 per year for depreciation, maintenance and repairs. That is a total private automobile expense to the district of $120,000 per year. These private automobiles are used only at intervals, while the transportation fleet is used five days each week for ten months. The total pupil transportation expense to the area for the school year 1929-30 was $17,000 for 180 days of service, and of this amount more than $5,000 is still in the transportation sinking fund. This is less than one-sixth of the private transportation expense of the people of the same area. The per pupil cost annually decreases and efficiency increases. When this truth is fully realized by the taxpayers, they recognize how much more the community is getting for the money invested in its cooperative transportation than for the money expended on its private transportation.

A Little Tact Will Help the Situation

The attitude that "I want my child to have just as much as any other child gets" is one that must be handled with diplomacy and sometimes board action or a state law is necessary to change this attitude. Diplomacy is the best of all arbiters. Reasonableness and the spirit of accommodation on the part of the transportation management usually beget the same on the part of the parents and children. Sometimes a bus mired to the axle in the muddy lane will be sufficient to prompt the complaining parent to advise that the bus stay on the good road instead of trying to come for his children. This is particularly true if the complainer realizes that by his insistence he has delayed all of his neighbors' children in getting to school or getting home and as a result he is becoming the object of criticism by all whose good will he covets. Most mortals crumple in the presence of disapproval of their peers. Neighborhood opinion can easily accomplish what no management edict could ever attain.

To the uninitiated, the discipline of the chil-



Courtesy of Virginia State Chamber of Commerce.

Happy pupils testify to the safety and convenience of this bus route.

dren while on the route to and from school seems a difficult task. Many schools have employed mature men or women of the community or teachers of the school as bus drivers and have expected them to maintain discipline.

In the Lincoln School an entirely different policy is pursued, a policy that is born of a different educational philosophy. Each room of the school is pupil controlled. The entire school is controlled by a pupil council. Why should not the children in each school bus be controlled in the same democratic manner? They are. The driver is supposed to drive the bus and do nothing else. The pupils are responsible for their own conduct. They have a body of regularly elected officers—president, vice-president and secretary. The secretary keeps the record of all misconduct. He makes a report each morning of the conduct of the pupils on the bus going from school on the previous day and back to school on that day. If there are any matters that need attention, the officers, the offender and the faculty transportation counselor meet and try the case.

In consequence of this procedure, the trips to and from the school offer what are perhaps the best opportunities of the entire school program to build pupil responsibility, self-control, clean conduct, ideals of citizenship and moral fiber. There is no loitering along the way; there are no wet feet, no muddy shoes, no torn clothing and touseled hair, no bloody noses or bloodshot eyes, no bespattered reputations because of misdeeds and tattling tongues along the way from school. This is another opportunity for turmoil that has been transformed into a school for citizenship.

In every big undertaking the difference between distinction and disaster is just one thing —management. This is just as true of the transportation of pupils as of any other undertaking. Successful transportation of pupils at the Lincoln School has been the result of the good management of H. A. Tape, principal of the school. Mr. Tape realized that the children must be called for each morning at their homes and returned there happy at night and that while he had them in his care they must improve in body, mind and spirit. He must do this and yet at such a price that taxes would not be too burdensome. With the aid of an efficient superintendent of transportation and his sixteen drivers, Mr. Tape has been able to accomplish all this.

The happy result has not been secured by magic or even without much patient trial and considerable error. The most conspicuous error made was the initial method of transportation. For the first three years of consolidation, the transporta-

tion was let to a private contractor at a fixed price of $1,475 per bus. Each bus carried about thirty-five pupils. The transportation was efficiently carried out but the interest of the transportation contractor was always served when there was a clash of interests between his own and that of the school. If the snows were deep, the mud bad or the weather too cold the busses did not run. The conclusion of the contract saw the contractor much enriched and the district poorer but wiser. Three more years have passed with school transportation under district ownership and faculty and board management. As a result of the present system, the district owns a fully paid for fleet of busses, a $12,500 garage thoroughly equipped and free of debt and has more than $5,000 in the transportation sinking fund.

All of this has been accomplished in spite of the fact that the amount allotted for transportation is only $1,100 per bus instead of the $1,475 required by the contract system. The superintendent of transportation is a full-time faculty member who devotes his entire time to transportation. The service has been improved. The spirit is better and taxes have been reduced.

The drivers are as well organized as a city police force. The entire fleet of busses runs as if it were a single train of seventeen cars.

The garage where the cars are kept and conditioned is a model of cleanliness and good order. The deficiencies of each car are so closely checked that they are always corrected before they become serious. The busses never fail to run. Any railway system in the nation would be envious of their record for being on time. The pupil transportation system is the pride of the Lincoln School district.

Transportation that is improperly organized and administered is one of the most expensive items of the consolidated school and one that can create many problems and arouse severe criticism. When it is properly organized and administered it is a source of great satisfaction to the administration of the consolidated school.

What Should Be the Function of the High School?

Whether high schools should serve primarily as preparatory schools for higher education, or as self-sufficient entities in preparation for a vocation, is being studied by the Office of Education, according to Dr. Henry R. Evans, of the office's editorial division.

An extensive survey of the entire field of secondary education, to obtain data on the subject, has been under way approximately a year, and will be continued for two more years, under an authorization of Congress.

Further information offered by Doctor Evans follows:

It has long been a matter of considerable controversy whether high schools should devote their efforts to the training of pupils to fit them for the gaining of a livelihood or to prepare them for college work.

A number of high schools throughout the country have adopted a dual curriculum plan, offering one course of study to the pupil who desires and intends to enter college after finishing his high school course, and another for the pupil who has no intention of continuing his schooling after his high school course is completed.

This plan is a satisfactory one in most respects in the solution of the problem in particular cases, although it has some drawbacks. It is, however, a plan difficult to put into practice in schools with limited equipment and teaching force.

Who Should Support the Schools? —A Suggestion

That a study should be made of the feasibility of a municipal or school district personal income tax allocated to schools only, is the suggestion of B. M. Grier, superintendent of schools, Athens, Ga., in an address, "How to Secure Financial Help From the Community for Our Schools," given before the Georgia Association of Superintendents.

"Such a tax is the best method of enforcing the personal obligation of the citizen," Mr. Grier pointed out.

"The tax should be levied upon persons in respect to their net income and should be collected only from persons and at places where they reside," he said. "An income business tax might also be considered which should, except in certain cases, be levied on the net income derived from business carried on within the school district. The rate of the business tax should be proportional and not progressive. Education makes income not property. Under existing conditions we are forced to admit that the old general property tax for supporting our schools is inadequate and unjust. We, as superintendents, can profitably spend part of our time in creating public sentiment and in promoting legislation that will make it possible to use other and better means for the support of our schools."

Learning's New Tool: Radio and the Public Address System

Of the nine educators who here contribute to a symposium on the value of radio in the schools, all are agreed that its potentialities are far-reaching

By EARL Y. POORE, Chicago

TO CONDUCT a research bureau that will serve as a clearing house of information on such a lively subject as educational radio, it is necessary to compile various facts, figures and opinions.

One thing that has been requested persistently is a brief collection of authoritative statements from eminent sources, dealing with the general and specific advantages of radio and public address equipment as a tool for the educative process. The symposium that follows is built up of typical statements from persons whose right to speak with authority on this subject can scarcely be questioned.

John Guy Fowlkes, professor of education, University of Wisconsin, in the Wisconsin Journal of Education, *December, 1930:*

"Members of the Wisconsin Radio Research Committee are convinced that the radio can be used to teach subjects when no qualified teacher is available in the classroom, and that its greatest value will be to supplement the efforts of the classroom teacher.

" 'Seeing is believing' no longer applies to Wisconsin teaching methods, for to-day an increasing number of schools are using radio as a medium of instruction. The Wisconsin radio experiment is an indication of the practicability of radio instruction, and demonstrates the progressiveness of our state educational program."

Ray Lyman Wilbur, Secretary of the Interior, in School Life, *February, 1930:*

"Radio lengthens the power and personality of the teacher.

"While the eye brings to us conceptions of everything around us, it is said that it is a greater deprivation to lose one's hearing completely than to lose one's eyesight. Either is such a great loss that perhaps no real distinction can be made, but through the sound waves that reach the ear, we get a whole range of human pleasures and much of our happiness. Until the last few years the eye has always had a greater range than the ear, but with the invention of the radio we have suddenly enlarged the zone of our hearing so that it is now statewide and continentwide, and even worldwide. Through the rather simple instrumentality of tubes and dials and wires we come in contact with the outstanding personalities, the leading singers, the best musicians and the facts of the day.

"There is no possibility of replacing the classroom teacher, but there is the chance that someone with special qualities of voice and personality may be able to project himself or herself into the thinking and training of thousands of youths."

William C. Bagley, professor of education, Teachers College, Columbia University, in School and Society, *July 5, 1930:*

"It is possible that developments in these fields —radio and television—will work some profound changes in education. One may imagine how schools could conceivably be conducted in the future. At nine o'clock, let us say, the teacher tunes in on opening exercises. On the silver screen across the front wall of the classroom appears the picture of someone who has specialized in organizing opening exercises. Now he speaks, giving directions as to what pupils are to do. On occasion there will be songs in which the pupils will join. At other times it is quite likely that the broadcasting teacher will himself have charge of a class, and that what the pupils of this class say and do will be projected upon the screen in thousands of classrooms. There are untold possibilities for the training of teachers in the educational talkie and in the radio-television.

"As has been suggested, the great advantage that will come to the schools through these inventions lies in the fact that the very ablest teachers will be enabled to carry their work to millions of pupils. Unless we are mistaken, some really great teachers will come into a kingdom that has long been denied them. They will be known more widely than individual teachers have ever been known before, and it is fairly predictable that they will be paid as teachers have never been paid."

Paul V. Brown, superintendent of schools, Barnesville, Ohio:

"The time will soon come when each room will be properly equipped with radio as it is with blackboards and windows.

"What we want is radio reception in every room, and a listening period every day.

"The expense of teaching pupils in the public schools by means of radio is much less than the cost of instruction by any other known means.

"The cost of radio and public address equipment for a school may average several dollars per pupil, but as such equipment will last for a number of years, only a fraction of this expense can properly be included in the cost for any one year. If it should be added to one year's expense, however, it would, on the average, increase the expense per pupil by only one and one-fourth cents per school day.

"The dime that goes to the movies, or for candy and chewing gum, is enough to keep the pupil under the leadership of the best minds and the highest ideals of his generation for more than a year.

"Let me briefly mention a few of the results . . . of radio lessons:

"For pupils there is necessity for unusual concentration and attention. Each must stand or fail on what he is able to comprehend and do. Certain individual abilities and individual differences are prominently brought forth.

"Teachers have the stimulation in lesson planning and methods of instruction by the observation of frequent demonstration lessons by the best of instructors and supervisors. They may observe the individual differences among their pupils in a manner impossible to them while personally conducting their classes.

"Supervisors learn an accuracy in lesson planning never known before. This will bring greater sympathy for and understanding of the problems of the classroom teacher. Opportunity is given to influence classroom methods through demonstrations multiplied many times over what is possible by possible contact.

"The public gets an interest in the schools never reached before. This comes from a knowledge of methods of instruction and content of subject matter which parents and the general public have not had because of not visiting the classroom.

"I look for school buildings to be equipped with powerful receiving sets under the direct control of the principal's office."

Levering Tyson, associate director, University Extension, Columbia University, in "Education Tunes In," American Association for Adult Education:

"There is no field of human endeavor that radio does not touch.

"The chief advantage of the radio lecture is that it makes the personality and enthusiasm of an outstanding teacher available to a widespread audience.

"The American public will eventually want to see established some constant source of supply of educational broadcast material, and this the educational world of America should provide.

"A digest of successful educational broadcasts for the period from September 3 to December 31, 1929, is given here:

Subjects	Number of Programs Broadcast
Agriculture	49
Business	63
Child Training and Parental Guidance	59
Drama	37
English and Literature	101
Fine Arts	19
Health	126
History	70
Home Economics	103
Languages	23
Music—Interpretation and Appreciation	84
Political Science	35
Religion	69
Science	51
Sociology and Community Advancement	55
Spot News	33
Miscellaneous	192
Total	1,169

"This list is made from actual reports of schools making use of these broadcasts."

Armstrong Perry, United States Bureau of Education, in "Radio in Education," the Payne Fund, 1929:

"Experience in several cities, counties and states in whose schools instruction has been given by means of radio has proved that radio holds the attention of pupils not only during the novelty period but continuously.

"The radio lesson did not crowd out any other. The radio teacher did not take the place of the

classroom teacher but served as her assistant. The two together were able to accomplish more in the class period than one teacher had been able to do in the past.

"Much self-activity, usually directed by local teachers, has been directed even more effectively with the aid of better trained and more experienced teachers who have been made available by the use of radio, the regular teachers, of course, assisting the radio teachers and helping the pupils who are backward.

"Radio supplies the uplift that comes from knowing that thousands are receiving the same lesson.

"To the argument that radio in the schools is only a fad, the answer is that radio is the modern means of communication and the only means whereby one teacher can speak to a hundred thousand or a million pupils at one time. The automobile was a fad and the telephone a plaything to many who clung to the past, but both seem destined to outlive all those who had that point of view.

"With master teachers at the microphone, every classroom becomes also a normal school for the teacher in charge.

"Radio is welding the home to the school, for parents in the home listen to the lessons that their children are receiving in the schools."

Paul M. Pitman, educational director, Radio Station KPO, in the Sierra Educational News, *October, 1930:*

"Germany . . . leads the world in the development of educational broadcasting for classroom reception. An interesting feature of these broadcasts is 'The Traveling Microphone.' The microphone is taken into factories, railroad yards, mines, offices, governmental assemblies, model schools, shipyards, telephone offices, motion picture studios and the like. In this way, the student actually hears the noises of the world at work, and a vivid description from the radio teacher stimulates and holds his interest."

C. B. Baldwin, district superintendent, Huntington Beach Elementary Schools, Huntington, Calif., in the Sierra Educational News, *November, 1930:*

"This demonstration . . . of the new apparatus took four directions: (1) correcting the acoustics of our auditorium, which were poor; (2) an announcement service to all rooms and departments from the superintendent's office; (3) outside radio service; (4) broadcasting musical records to the classrooms and to the auditorium.

"We are giving our pupils training in speaking before the microphone, which of course requires stage presence, distinctness of enunciation, voice control, modulation and the will to interest one's hearers.

"We have immediate contact now with history in the making."

Joy Elmer Morgan, editor, Journal of the National Education Association, *in "Radio and Its Future," edited by Martin Codel, Harper & Brothers, 1930:*

"The importance of radio in education is suggested when one compares it with the recognized objectives of the schools. The objectives of education as set forth by the National Education Association and as they appear on the membership card that goes to the nearly two million members of the National Congress of Parents and Teachers are: (1) health and safety; (2) worthy home membership; (3) mastery of the tools, techniques, and spirit of learning; (4) faithful citizenship; (5) vocational and economic effectiveness; (6) wise use of leisure; (7) ethical character. These objectives are pointing the way toward a much broader idea of education than has hitherto existed. Under their influence new types of schools are coming into being, and parents and teachers are taking a new attitude toward the child. Radio has many contributions to make to this broader education of the future, that is to say, the achievement of each of these seven objectives.

"Radio, because of its ability to command expert services . . . has a large contribution to make to health.

"May the time not come when a school of home planning and design will be one of our most popular radio features?

"Radio . . . is the most powerful stimulus that has ever come to the human mind. . . . Who can estimate the motivating and inspiring force of some future occasion when the entire race will listen to one of its brilliant scientists as he explains some great truth?

"Radio will help to spread the vision of . . . constructive citizenship.

"What radio can do . . . for vocational and economic effectiveness . . . is suggested by the vocational guidance program of the California School of the Air. Each year . . . outstanding men and women of California present the challenge of some thirty different vocations. Each speaker answers five specific questions: (1) What is the place in the life of the community of your profession, business or industry? (2) What opportunity does it present? (3) What rewards does it offer? (4) What abilities does it demand? (5) What training and education do you recommend for success in this field?

"Radio . . . widens the family circle and the school circle to include the ablest teachers, the most earnest preachers and the noblest statesmen of the country.

"No one need think that it will be easy to harness radio for the schools. It is a hard and difficult problem. Some of the first experiments will fail; weak spirits will consult their fears rather than their hopes. Love of the traditional and the easy will be a constant barrier. The development of the radio art itself is a huge task. But, inescapably, this new tool of learning will find its place in the schoolroom."

Courses That Have Been Given in High Schools

Following is a brief list of technical, scientific, vocational and business courses that have been successfully given for high schools by prominent educational institutions. This list is not by any means complete or all-inclusive, but is intended rather to be illustrative of the possibilities.

University of Arkansas—What's in the Sky Tonight?

University of Georgia—Psychology and the Automobile.

University of Kentucky — Facts About Gases and You.

University of Minnesota—Bank Mergers. Employment Conditions.

Virginia Polytechnic Institute — Sewage Disposal. Industrial Surveys. Chemical Engineering. Research and Industrial Progress. Faraday's First Dynamo.

New York State Department of Education —The Vocations: Law, Medicine, Chemical Engineering, Aeronautical Engineering, Architecture, Dentistry, Pharmacy, Optometry, Teaching, Agriculture, Forestry, Ceramics, Mechanical Engineering, Electrical Engineering, Civil Engineering, Journalism, Music, Accountancy.

University of Washington—The Making of a Doctor. Engineers of the Air. Architecture. Hydroelectric Power. Investment Policies That Pay. How to Know the Trees. Mineral Wealth and Its Relation to Industrial Development. Pharmacy, To-day and Yesterday. The Picture on Your Wall.

If such subjects as these can be satisfactorily taught by radio, it is difficult to see why diligent and thoughtful educators cannot apply the radio to virtually the whole of the present day educational field.

Comments of school people on this symposium will be welcomed, either by way of suggested additions or of refutation.

School Construction Is Active in Minnesota

Activity in construction of new school buildings in Minnesota was greater last year than in the two preceding years combined, according to a statement issued by Samuel A. Challman, director of the division of school buildings, state department of education.

In the urban districts during the past year thirty-eight new buildings have been completed, and thirty-eight other buildings are still under construction. The total cost of the completed buildings is $3,035,324. The total amount of contracts let to date for buildings still under construction is $3,362,648. In the rural districts the building activity has been about the same as a year ago.

This year's record to date includes fifty-two buildings completed or under construction at a total cost of $310,000. A year ago there were sixty buildings erected at a cost of $336,357.

The cost per cubic foot of urban buildings erected during the past year averages twenty-three cents. This is almost identical with the cost during the years 1928 and 1929.

The latest available statistics show 9,186 schoolhouses in the state with a valuation of $151,988,440. This amount includes both buildings and sites.

Uniform Marking System Is Urged for Pennsylvania

Recommendations concerning the adoption of a uniform marking system were made recently to the college teachers of Pennsylvania by a committee appointed for the purpose, says the *Pennsylvania School Journal.* After pointing out the disadvantages and inconveniences of the twenty or more marking schemes now in effect in Pennsylvania, the committee submitted for consideration the following recommendations:

That a five-point marking scale be adopted using the characters, A, B, C and D for passing grades with E, F or I marking the failing grade.

That marks in large groupings should approximate a probability curve to be determined largely by studies at each college.

That a large use should be made of objective standardized tests.

The compilation and study at least annually of the marks given at each college.

The use of credit points to encourage higher grade attainments.

The NATION'S SCHOOLS

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Editorials

Supervisors—Headsmen or Helpers?

THE need of supervision of teaching is a much talked of subject nowadays. Supervisory work in all grades and kinds of schools has greatly increased during the last decade. There is discussion of the kind of supervision that will best promote efficient teaching, but there seems to be less interest in trying to find out whether supervision is actually beneficial than in securing additional facilities for supervisory activity.

Has the time not arrived for controlled experiments designed to determine accurately whether teachers who are closely supervised turn out a better product at the end of the year than do teachers who are allowed pretty largely to go their own way? Undoubtedly, there are many who will ask, "Why is it necessary to waste any time over such a foolish question? Of course teachers who are visited regularly by supervisors do better work than teachers who are left to their own devices. How can a teacher who does not receive instruction from a superior succeed as well as one who receives counsel regularly?"

Recently five supervisors were observed at work among the teachers under their jurisdiction. Two of these supervisors were from the office of the state superintendent of public instruction. Two others were attached to a city superintendent's office. One was a county supervisor who visited rural schools. The supervisors from the state office spent their time observing whether teachers followed the instructions issued by the state superintendent which was a course of study and methods of teaching. The supervisors rated the teachers according to the thoroughness with which they carried out the state program. They did not ask any teacher who was visited whether or not she approved or had any suggestions for the betterment of the state program, since the teachers are not supposed, or at least are not invited, to have any opinions of their own on educational aims, values or methods.

The supervisor from the county superintendent's office followed exactly the same plan as the supervisors from the state office. He did not ask a teacher in a rural school whether she had any suggestions with regard to the material to be taught in her school or the method of pre-

senting it. He made comments like the following: "You see, here is what the outline covering this subject says should be done. You are not doing this very carefully. You should follow this plan closely so that you can get better results," and so on. The supervisor took it for granted that the results he wanted were better than any different results the teacher might wish to secure.

These state and county supervisors were not warmly welcomed by many, if by any of the teachers they visited. There was little evidence that teachers were eager to gain advice from them. They were not helpers so much as inspectors, dictators, headsmen. They had a lordly or czarish attitude toward their subordinates. If they did not say it in so many words, their bearing and their looks suggested, "Do as we tell you. It is not desired that you should have notions of your own about what should be taught or why it should be taught. Either stick closely to the program that we give you, or go elsewhere." It was evident enough that the teachers working under the jurisdiction of these supervisors were not free agents.

Does supervision help or does it hinder a teacher? It is a matter of opinion, but there is little doubt that some of the teachers visited by these supervisors would have been just as well off, possibly better off, if they had been left alone. If the supervisors had consulted the teachers instead of simply checking up on them, the supervisory visits might have been of value. It may be that certain of the teachers work best under a mechanical régime in which they follow plans set before them. But even this type of teacher would probably be benefited by supervision that would stimulate her to study ways and means of doing the best for her pupils.

It would have been best, perhaps, if the supervisors had not attempted to inspect and to score the work of particular teachers, but instead had invited all the teachers in the district to come together to discuss the programs that had been prepared for them, with a view to setting them at work to discover what improvements could be made in the programs and what modifications were desirable in order to meet particular conditions. If the supervisors had stimulated the teachers to be original and resourceful instead of mechanically subservient, better results would probably have been secured. Also, if they had been a little more companionable and less autocratic and overbearing, the teachers would have put their suggestions into effect more conscientiously.

The two supervisors who were connected with the city superintendent's office came nearer than the others to giving the kind of service that it seems teachers ought to receive. Both of them were genial and the teachers appeared to be glad to have them come in and look over their work. These supervisors seemed more anxious to get suggestions that they could pass on to other teachers than they were to lay down the law. They were not autocratic or domineering. Not a word was heard from either of them that sounded like scolding or complaining or nagging. The superintendent of schools said that it is a fundamental law of his office that no person who goes from it to visit schools under his jurisdiction is to assume a superior attitude towards teachers or to attempt to terrify or even to upbraid them. He chose supervisors who were naturally companionable and not domineering.

The city supervisors were undoubtedly more helpful to their teachers than were the state and county supervisors. How can a teacher do her best in a classroom if she is afraid of her superiors and is in a constant state of perplexity and apprehension arising from her feeling that she must do exactly as she has been told to do and that her superiors are on the watch to decapitate her professionally? Teaching is not wholly or primarily a process of inserting specific facts into the minds of pupils. There is a spiritual relationship—this sounds sentimental but on the contrary it is coldly psychological—between a teacher and a pupil, and the teacher must be a free agent, fearing and dreading no one.

It goes without saying that a teacher should seek counsel and guidance from those who can solve problems better than she can. But those who give her counsel should be friends and not headsmen. She should be glad to see a supervisor because he does not make her feel inferior by dwelling upon her shortcomings, especially before her pupils. When he leaves her, she should be a more cheerful and a more confident person than she was before he entered her classroom.

N·S

Education on the Defensive

IN A number of states, new governors have just sent their first messages to their respective legislatures. Education has received conspicuous attention in all the messages.

Without an exception, the governors advise stricter economy than has been practiced heretofore in the maintenance of public education. Quite generally it is charged that appropriations for educational work have outrun the resources of communities and states and that educational leaders have not had clear objectives in view but have

driven ahead without knowing quite where they were going. There has been, according to some of the governors' messages, too much blind experimentation in educational work for the purpose merely of introducing innovation, and this has been costly to the taxpayers. In one resounding message to the legislature, a governor advised severe curtailment in appropriations for all higher public educational institutions. He urged that "dead timber" be cut out of the educational system.

During the next year or two, and perhaps longer, education will be on trial in a more vital and conspicuous way than it has been during the past two or three decades. Taxpayers will demand not only cessation of educational expansion, but actual regression in the educational budget. A movement is already afoot to reduce teachers' salaries and to double up classes so that as the pupil population increases it will not be necessary to make additions to the teaching staff. What some of the newspapers call educational "side shows" will have to fight for existence. There can be no doubt that the financial depression through which we are passing has tremendously accentuated the opposition to the expanding educational program throughout the country. Voices are being heard everywhere, crying out that citizens cannot continue to support the expensive—needlessly expensive—educational establishments that have been built up in communities large and small throughout the country.

The NATION'S SCHOOLS believes that the educational program can be conscientiously and successfully defended. It can be shown that any community is receiving adequate returns in the physical, intellectual and moral improvement of the rising generation for every dollar expended on the public schools. But merely to make the assertion that expenditures for education cannot be reduced without injury to the training of the young will not convince skeptics. It will be necessary to show concretely and impressively that there is no waste in the maintenance of the schools. The secondary and higher institutions will have a harder task to convince taxpayers than will the elementary schools.

N·S

Are School Playgrounds Wasteful of the Taxpayers' Money?

IN THE attack that is being made on expenditures for public education, one great newspaper is claiming that the amounts being expended throughout the country for playgrounds as a part of the equipment of public schools is unnecessary and wasteful. It charges that the movement toward obtaining playgrounds is just another instance of the drift of public education toward unessentials. It further charges that during the past two decades the school curriculum has been loaded up with expensive frills, and now to cap the climax vast sums are being expended for the purchase of playgrounds and for their maintenance. It advises taxpayers to put a stop to this extravagance.

Anyone who has had an opportunity to observe what has happened heretofore and what is now happening to the young in older countries than ours in which the people have become congested in cities and in which little or no provision has been made for the children to play except in the streets, would never suggest that the establishment of playgrounds in connection with public schools is a needless extravagance. In some of these older countries, it is well understood by students of national life that the only way to prevent decay in the younger generations is either to keep them out of the congested cities or else to provide open spaces for their play therein.

In cities like London the movement is already under way to tear down blocks of buildings in the vicinity of public schools so that children may have a chance to keep off the crowded streets and to indulge in the games that are essential for them.

The last census has shown conclusively that in the United States we have already become an urban people, and the drift from the open country into crowded cities is increasing in momentum. It is as certain as anything can be in sociological matters that all but a small proportion of our people will live in congested centers. The younger generation is growing up under restrictions that were utterly unknown and actually inconceivable a generation ago. A student of sociological conditions recently made the statement that an individual living in a city to-day is restrained by traffic, by dense population and by new modes of living ten times as much as he would have been thirty years ago.

What does all this mean for the younger generation? For one thing, it means that there must be some outlet for normal child play or our civilization must go the way that earlier civilizations have gone and are going. One can see in the teeming cities in some of the older countries that a considerable proportion of young persons are arrested in their development and are nervously unstable before they reach the teens. There is no way we can avoid that calamity in this country, now that we have become a highly urbanized people, except by preserving open spaces in the neighborhood of every public school so that from early childhood children may escape from repressive and overstimulating street life and may engage in the games that are essential for the development of a stable mind in a sound body.

Educational Issues of the Hour

A Critique of the Detroit Convention

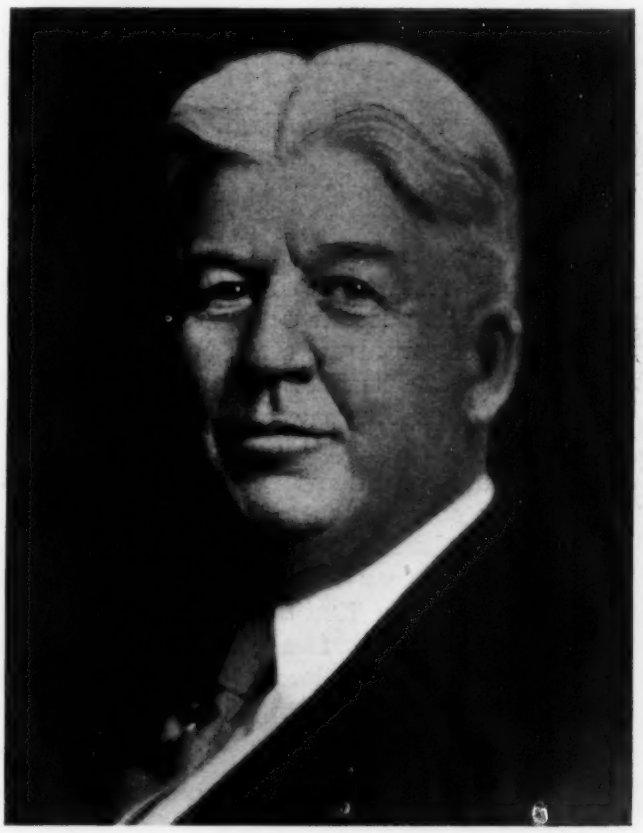
By M. V. O'SHEA, Editor-in-Chief, The NATION'S SCHOOLS

THE winter meeting of the Department of Superintendence is generally regarded as a weather vane, indicating the direction in which educational pressure is tending. Probably most of those who regularly attend this meeting take their cue from the subjects listed in the program, from the points of view presented by the speakers and from the resolutions adopted by the convention as a whole or by the various sections and affiliated societies. The Detroit convention was, in these respects, no exception to preceding conventions, although there did not appear to be such clear issues and such concentration of attention upon dominant topics at the last meeting as was true of the Atlantic City, Cleveland, Boston and probably other earlier meetings.

Helping Teachers to Grow Professionally

A few issues were outstanding in the Detroit discussions. Perhaps the most important was the training of teachers. At the superintendents' meetings the discussion related to practicable and effective ways and means of helping teachers to grow professionally while they are in service. The college teachers of education and the teachers' college groups discussed a great variety of problems having to do with the technique of preparing teachers to enter the profession, but the superintendents were concerned entirely with feasible methods of helping teachers to overcome their faults and to strengthen their strong points while they are actually at work in the classroom. Supervisors in their sectional meetings discussed the difficulties they encounter in leading teachers to appreciate their shortcomings and to surmount them. So far as any one observer could detect, there was considerable harmony in the views presented by those, on the one side, who are engaged in getting novices ready to teach and by those, on the other side, who are charged with the responsibility of improving their work after they enter the classroom.

It seems that the in-service training of the teacher is of greater importance, alike for the individual and for the children under his instruction, than is the preparatory training in the normal school or training college. It is to be expected that some will not agree heartily with this point of view, for there are prominent persons engaged in preparing teachers who think that a novice can be turned out of a training institution ready to do expert work in the classroom. The testimonies of those who are actually engaged in supervising or measuring the work of teachers are practically all against the doctrine that one can master the teaching art completely before he actually attempts to practice it. Not until he is face to face with the real problems he encounters in his work can the teacher begin to understand the nature of the problems and to acquire efficient methods of solving them. At any rate, every reader will agree that



Willis A. Sutton, superintendent of schools, Atlanta, Ga., president, National Education Association.

it is of supreme importance for superintendents, principals and supervisors to cooperate in helping teachers to become more skillful in dealing with classroom situations after they enter service.

The notion that has prevailed heretofore and that is still guiding some superintendents, principals and supervisors, is that a teacher should be ready to do expert work the first day he enters service and that the function of those who examine his work is to determine whether to recommend that he be retained or fired and not to assist him to improve. This notion was belabored in Detroit. The reports made by various speakers in the superintendents' sections regarding the work that is now in progress in many communities in training teachers in service were exceedingly wholesome and encouraging. The problems that need to be studied further relate to the detailed rôle to be played by the normal school or training college on the one side, and the superintendent, principal and supervisor on the other in making the preparatory and the in-service training harmonious and supplementary.

Is There a Lack of Unity in Our Schools?

The problem of articulating the units in our educational system was given a large place in the Detroit program. The members of the commission engaged in the study of articulation made speeches in the auditorium, and many sectional meetings discussed detailed problems involved in leveling the barriers that isolate to a greater or lesser extent one unit from the other units in the educational system. The discussion of this subject of articulation did not appear to make a deep impression upon the auditors. It is possible that the lack of unity in our educational system, which was emphasized by some speakers, is not very serious after all. Probably the disunion is greatest between the senior year in high school and the freshman year in college. That there is waste motion at this point no one who is familiar with the situation can doubt. The college treats the freshman much as though he had not completed a high school course. It requires him to go over ground that he has already covered, thoroughly or otherwise.

Articulating High Schools and Colleges

This problem of articulating high school and college received the least attention at the Detroit meeting of any problem of articulation. It may be pointed out to the members of the commission that attention ought to be concentrated now upon the senior year in high school and the freshman year in college for the purpose of obliterating one or the other. If the college continues to require pupils to pursue linguistic and mathematical and science techniques, formalities and minutiae, then the senior year of high school and possibly even other parts of the high school course had better be abandoned so that the student can save a year or more in his secondary school and in his college course.

Vocational guidance has come to the front in educational thinking and discussion. It received deserved recognition in the Detroit program. Those who on the one side are devising techniques for the diagnosis of a child's interests, abilities and aptitudes, and those who on the other side are engaged in actually guiding young people in their educational and vocational choices consulted together to determine to what extent they could make vocational guidance really effective. No problem before American teachers and executives is more pressing or important at the present moment than is the guidance of youth so that when a child quits school or college he will have had the benefit of counsel regarding the work in the world for which he is best fitted by nature and by training. What is needed now above everything else is experimentation for the purpose of developing practicable and dependable techniques for evaluating the aptitudes, interests, ambitions and emotional trends of every young person in high school or in college. Perhaps here more than in any other phase of our educational work there is need for enlightenment. This was apparent in the discussions at Detroit, and it was apparent also that there are a good many capable persons in this country who are working on the problem.

The School and Civic Enterprises

It has become vividly clear to school executives and to those who are engaged in studying the relation of education to other activities of present day American society that the school cannot go on its own way independent of other civic enterprises. Those who can remember back two or three decades can recall that in an earlier day one rarely if ever heard it said that those who administer schools should keep in close touch with community life in its various aspects and ramifications. If there was at the Detroit meeting any old timer who felt that the school should be set apart from community activities and should attend to its own business and be let alone by the community, such a person must have left the meeting with the conviction that the school of to-day cannot pursue an isolated and independent course. Those who determine educational policies must be in contact with other civic interests and activities, and must work in harmony with them. Fortunately, there was shown at Detroit the need of keeping the community well informed and in sympathy with the

purposes, the needs and the achievements of the school.

The leisure time of the pupil was not overlooked at Detroit. Practicable methods of providing recreation during the vacation periods and especially during the summer were pretty thoroughly gone into. Superintendents and others told what was being done along these lines in their respective communities. The all-year school as a means of providing for the usual vacation periods did not receive proper attention. It is probable that we shall in due course adopt an all-year school policy and make the summer session adapted to the needs of pupils and to the recreational facilities in communities in which the schools are located. So far as investigation has gone, data bearing on the matter have shown that pupils are better off physically, morally and emotionally in all-year schools than are pupils in the regular nine and one-half months schools in communities that are not well provided with wholesome and adequate recreational facilities.

Financial Aspect of Education Not Stressed

It would be impossible for this critique to evaluate the entire program at Detroit. The convention lasted for four days; it would require four weeks for any one person adequately to gain the points of view and grasp the detailed policies presented by the various speakers in the general and sectional programs of the Department of Superintendence and in all the affiliated societies. It is physically and mentally impossible for any one auditor to extend himself completely over the extremely complicated programs of this annual convention. This article, therefore, while it has not mentioned all the important topics discussed at Detroit, has pointed out the dominant ones.

This will be as good a place as any to call attention to the vacuities in the program. At the present moment the movement is spreading throughout the country to restrict education by curtailing appropriations alike for buildings, for equipment and for the normal increase in teaching staffs. Editorials from leading newspapers in the East, West, North and South within the last few months have called attention to the financial burden that education is imposing upon taxpayers, and they are demanding that funds expended for the schools be reduced. It is charged that there is a good deal of waste and needless extravagance in education.

It would have been timely if the Detroit program had played up more prominently than anything else the fiscal aspects of this movement. The question should be asked: "Is education receiving an unduly large proportion of the resources of communities so that taxpayers are too heavily laden?" The situation requires more than conventional or platitudinous answers to this question. In order that regression may not set in in our educational work, it will be necessary for students of finance and economics to go to the very bottom of the whole problem and to make it clear that social welfare requires that education be maintained at its present level of comprehensiveness and efficiency, and that as communities become more complex education must become more expensive in order to prepare the rising generation for adjustment to social conditions.

Mrs. Hugh Bradford, president, National Congress of Parents and Teachers, Washington, D. C.

Sociologic Changes Not Considered

There was another vacuity in the program at Detroit. Only incidentally was any reference heard to the effect upon the young of changing sociological conditions, which require continual modification in educational procedure. The statement was made by at least one speaker that juvenile crime is continually on the increase and that the schools are chiefly responsible for this state of affairs. This is an inadequate diagnosis of the situation. Influences are playing upon the young that are luring them away from a normal social life. If no other social agency will deal with these influences, then the school must undertake the task. But it must be made very explicit that social conditions are

precipitating a problem with which the schools of an earlier day never had to contend. It would have been well if attention had been given at the Detroit meeting to the changing sociological conditions that make it exceedingly difficult in many communities to preserve the original docility of the young, and to prevent them from becoming blasé and sophisticated before they have attained mental maturity.

Commonplaces Mark Some Sessions

There was a great deal of platitudinous talk at the meeting. The general programs particularly abounded in generalizations and hortative appeal. This may be inevitable. Speakers are frequently chosen for their facility in giving expression to commonplaces that are well understood by those who attend educational meetings like the one at Detroit. There was one program on which there were a number of speakers, each of whom was limited to ten minutes. No one on that program could say anything in ten minutes that was not known by everyone in the audience. Program makers ought to bear in mind that the élite of the teaching profession attend the winter meeting. There was probably not a novice in attendance at Detroit. They are men and women who are leading in education in this country. They would not be leaders if they did not keep up with educational developments. They do not need platitudinous discussion. They need to be told how problems are actually being solved in different communities. They need data that have been secured by critical analysis and especially by experimentation. Auditors, as a rule, come away from general hortative programs disappointed in what they have received. They gain much more from sectional meetings in which there is no temptation to indulge in commonplaces.

Too Many Generalizations

One could hear murmurings of dissatisfaction from persons who had not brought anything away from meetings they had attended, because they had listened to speakers whose views they had learned at other conventions. Some of the frequently heard speakers presented no fresh points of view. There are certain favorites who are drawn upon at every meeting and who have run out of fresh material. One can predict what one of these speakers is going to say and be 95 per cent right. It should be recognized, however, that some of those whom one hears most often are specially gifted in their ability to present their views clearly and forcefully, even if they do not leave anything of value with their hearers. Occasionally one will hear a disgruntled person who has come a long distance say that there is a ring or a clique, the members of which are pledged to keep one another in the limelight. It is doubtful whether there was any such collusion among the frequently heard speakers at this convention. It may be remarked, though, that when one speaker discusses eight or ten different topics at a meeting, it might be more profitable for his auditors if he would confine himself to the special field in which he is making progress, and leave to others those fields in which he is only an adventurer.

It is not going beyond bounds, however, to say that the educational leadership in our country, as reflected in the winter meeting, is in good hands—men and women who are students of education on the scientific side and who also keep in close touch with conditions under which the schools must operate. Two or three decades ago the personalities dominant on the programs at conventions were not so capable, not so scientifically minded and not so cautious in promulgating solutions for very complicated problems without critical investigation as is true of the dominant personalities that we see to-day.

Personal Contacts of Value

Superintendents, principals, supervisors, teachers and students of education still retain tribal interests in some measure. They like to listen to scrapping between speakers. The most talked of event at the Detroit convention was a personal contest between two outstanding educational men. A large number of men and women were heard discussing this contest. They were not so much interested in the truth being expounded by the contestants as they were in the skill of one in administering resounding whacks to his rival. There is probably no way to eliminate this barbaric interest. If it is rumored that two men are going to belabor one another at a meeting, it will be impossible to find a room large enough to accommodate the auditors, whereas they will easily pass by an auditorium in which the speakers are giving the results of diagnoses or investigations without any personal reference.

Probably the chief benefit gained by most of those who attended the convention was derived from direct personal contacts rather than from what was acquired from the speeches made by the different speakers.

The election of Supt. Edwin C. Broome of Philadelphia to serve as the next president of the Department of Superintendence was highly gratifying to everyone. A scholar, gentleman and markedly successful school administrator will guide the destinies of the department during the coming year.

Edwin C. Broome New President of Superintendence Group

Detroit is gracious host to educational leaders of the country; enthusiasm marks all sessions of the program; Philander P. Claxton is honored by the Exhibitors' Association as outstanding educator

WHILE no official figures have yet been published, it is safe to say that the attendance at the Department of Superintendence meeting at Detroit was as large as ever, and unquestionably the enthusiasm of the delegates was greater than is usually manifested at a meeting. The program was divided into many sessions, and these were held at the Masonic

Edwin C. Broome, superintendent of schools, Philadelphia, the new president of the Department of Superintendence.

Temple, in churches, high schools, hotels, telephone company offices and department stores. That Detroit is always a gracious host goes without saying, but this year under the capable management of Frank Cody, superintendent of the Detroit schools, the city outdid itself in honor of the school superintendents from all parts of the United States.

There were many entertainment features on the program, including the excellent singing and musical program provided by the Detroit schools. One of the outstanding features this year was the exhibitors' banquet which was held on Tuesday night and attended by more than 1,100 persons. It was at this time that Philander P. Claxton, Clarksville, Tenn., was presented with a beautiful desk set and his name added to the outstanding educators of the country. The president of the Exhibitors' Association, George Dudley Full, presided and there were many speakers on the program. Dancing was enjoyed following the banquet.

All civic clubs held luncheons during the week, and these were largely attended by the delegates. The Rotary luncheon which was held on Wednesday noon had a total attendance of 982, of which 711 were members of the Schoolmasters' Rotary Club. Nearly all colleges and educational fraternities held dinners, luncheons or breakfasts, and it was that spirit of camaraderie that made the meeting outstanding.

Nominations for various offices were received, and the election results showed that Dr. Edwin C. Broome, superintendent of schools, Philadelphia, had been elected for the ensuing year. According to the custom of the Department of Superintendence, the next place of meeting has not been chosen but there were persistent rumors that Washington, D. C., would be the next meeting place, because 1932 will mark the two-hundredth anniversary of George Washington's birthday, and also because the new headquarters of the National Education Association will be ready for occupancy at that time.

Delegates started leaving Detroit on Wednesday, and by Friday morning the city was again deserted of visiting educators except for the members of the Progressive Education Association

whose meeting followed that of the Department of Superintendence.

Delegates began to arrive as early as Thursday, and hotel lobbies were filled with well known figures in education. The National Vocational Guidance Association was holding its meeting at the

Thomas W. Gosling, superintendent of schools, Akron, Ohio.

Book-Cadillac hotel with the largest attendance it has ever had, and there were many school superintendents conspicuous in the gathering. By Sunday, 80 per cent of those attending the meeting had been assigned to rooms.

Saturday afternoon at four o'clock was the official opening of the exhibits in the Masonic Temple. A review of the exhibits was staged by President Crozier and the other officers of the Department of Superintendence. On Sunday afternoon at four o'clock in the mammoth auditorium of the Masonic Temple vesper service was held at which President Crozier presided. There were many musical numbers given and the address of the evening was delivered by Dr. Lynn Harold Hough, Drew Theological Seminary, Madison, N. J. Doctor Hough urged his hearers to get closer to the children of the community. "A child must learn that the universe is friendly. He must come to know that it can be trusted. He must learn that truth and loyalty and love belong to the ultimate structure of things. And all this must be said in words he can understand," declared Doctor Hough.

The first general session of the meeting was held at nine o'clock in the auditorium, and Frank Murphy, mayor of Detroit, brought greetings from the city. This was followed by a welcome from the Detroit schools by Dr. Burt R. Shurly, president, Detroit Board of Education. Following these welcomes, William McAndrew, formerly superintendent of schools, Chicago, and a widely known publicist, spoke on "Training for Parenthood." Doctor McAndrew stressed citizenship education and its place in every educational program. He also charged that inadequate education "is responsible for the $13,000,000,000 crime bill of the nation and the present unrest in the home and shocking marriage conditions."

The School's Responsibility to the Family

The second speaker was Rabbi David Lefkowitz of the Temple Emanu-El, Dallas, Tex., who took as his subject, "Family Influence and Background." He stated that the family and the home had suffered a terrific assault within the last generation, due to the popularity of hotel and apartment house living and the demands of industry by which women had entered our commercial life; and he admonished the school men that they must remake the American scene as it affects the family.

The next speaker was Mildred Palmer who is a first-grade teacher in one of the Detroit public schools. In an interesting manner Miss Palmer outlined the first contacts that a child has with the school. She said that it was unfortunate that many parents put more time and thought into their social affairs than they do on their children. "The more fully parents understand a child's nature," said Miss Palmer, "the nature of various forces and influences that act upon it, and the manner in which the child responds to these influences, the more successful they will be in rearing him, provided, of course, that this knowledge is really used in training."

The last speaker on this session was E. W. Butterfield, state commissioner of education, Hartford, Conn., whose subject was, "The School and the Community."

On Monday evening two general sessions were held, one at which Daniel S. Kealey, superintendent of schools, Hoboken, N. J., presided, and which was held in the auditorium of the Cass Technical High School, and the other at which President Crozier presided, held at the auditorium of the Masonic Temple. The auditorium of the Cass High School was connected with radio from the Masonic Temple and the attraction of these two meetings was the speech given by Rear Admiral Richard E. Byrd of the Byrd Antarctic Expedition. At Mr. Kealey's meeting the introduction of Rear Admiral

Byrd was given by President Crozier, while at the meeting at which President Crozier presided, Admiral Byrd was presented with an enormous testimonial from the American school children.

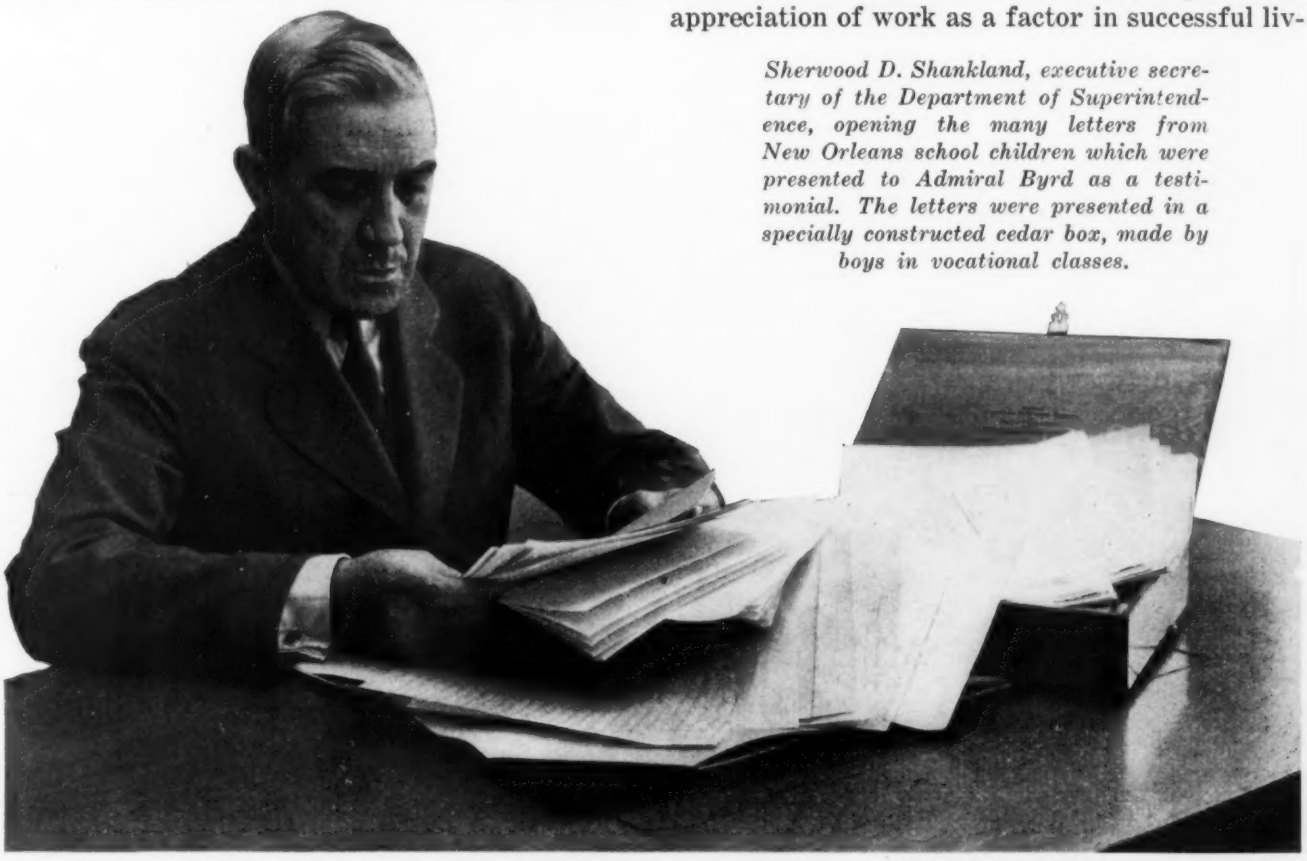
Preceding Admiral Byrd's talk, Gilbert Grosvenor, president, National Geographic Society, delivered an address which was heard in both halls entitled, "Byrd: The Explorer and the Man." He stated that Admiral Byrd's early education showed his bent for exploration. At the age of twelve he set forth for a trip around the world alone. During the World War he was assigned to active duty in the Navy Department. Later he passed his tests for flying, and in this branch of the service he had many adventures. President Crozier stated that Admiral Byrd is the only living man who has flown to both the North and the South Pole. Admiral Byrd in his speech paid due deference to Colonel Lindbergh and his accomplishment, and then told of the tremendous task in which he was now engaged in putting together data and maps relative to his famous expedition. He spoke especially of the various members of his expedition who are now at work coordinating all of the information they uncovered.

At the general session Tuesday morning, the theme was "Problems in Improving the Education of Children." Among the speakers on this program was Miss Emma Pritchard Cooley, director of vocational guidance, New Orleans, La. "Vocational Guidance is no longer in the experimental stage," said Miss Cooley. "Admittedly, an adequate, intelligently executed guidance program adds so much to the happiness of the child, the economy of operation of the school system, and the service of the schools to the community in terms of better trained workers, that it has become an absolute essential in intelligent school administration."

Charles M. Fisher, superintendent of public instruction, Miami, Fla., spoke on "Florida's Problem in Working for the Children of America." He stated that in the last ten years Florida's population had increased over 51 per cent, and that in addition Florida is a host to several thousand tourists each winter. He stated that the children who come there in winter have proved to be a problem, because there must not be any interruption in their education, and they must be returned to their own schools in the North ready to take up their studies with the rest of the class.

L. H. Petit, superintendent of schools, Chanute, Kan., spoke of "Vitalizing Commencements." He complained that there was little variation in commencement programs, and that they had become formal, stereotyped and conventional. He urged his hearers to use the commencement as a great opportunity to promote good will in the community.

Iris Prouty O'Leary, assistant for women's vocational work, state department of education, Trenton, N. J., told of the relation of schools to industry. She stated that the schools need to develop a better appreciation of work as a factor in successful liv-



Sherwood D. Shankland, executive secretary of the Department of Superintendence, opening the many letters from New Orleans school children which were presented to Admiral Byrd as a testimonial. The letters were presented in a specially constructed cedar box, made by boys in vocational classes.

ing for the mass of human beings, and that the problem of the school and industry is to utilize work experiences for educational ends.

William E. Wenner, superintendent of schools, Ashtabula Harbor, Ohio, read a paper entitled, "To Him That Hath Not—The Dull Child." He stated that in dealing with the dull child, emotional effusions and haphazard guessing should be eliminated at the start. "We must proceed at once to gain full knowledge of the situation; to provide means; to differentiate classes, schedules, subjects, types of material and teaching personnel; to supply intelligent and adequate supervision; to establish a follow-up system that may include patron committees, industrial colonies, paid supervisors and other means of ensuring useful and happy employment to the individual and valuable returns to society for its investment," he said.

On Wednesday morning Herbert S. Weet, superintendent of schools, Rochester, N. Y., presided. At this meeting, Hobart M. Corning, superintendent of schools, Colorado Springs, Colo., spoke on the subject "Looking at the Whole Child." He stated that waste in the processes of any business or industry is no more serious than is waste in educational procedures, and that when students fail to grow, develop and progress through the school system at normal rates, or when they are forced to drop from school early, waste is evident.

Harold O. Rugg, professor of education, Lincoln School of Columbia University.

Jesse H. Newlon, professor of education, and director, Lincoln School, New York City, was another speaker. Doctor Newlon said, "Through the circumstances of their origin and development our elementary and secondary schools are to-day widely separated. To effect the integration, educational planning is essential. The school system must operate according to some accepted educational and social theory. In our complex industrial civilization youth must gain an insight into the forces that make and direct industrialism."

John W. Withers, dean, school of education, New York University, was also a speaker. He stated that there is to-day a highly commendable tendency, to elevate the standard qualifications of the teaching profession by requiring four years of post high school education for the permanent certification of teachers, even for those in the elementary schools.

The last general session was held on Thursday

Carroll R. Reed, superintendent of schools, Minneapolis, Minn.

morning and the speakers on this program were H. P. Shepherd, superintendent of schools, Knoxville, Tenn., William John Cooper, United States Commissioner of Education, Washington, D. C., Robert C. Zuppke, football coach, University of Illinois, former Rear Admiral Hobson, Los Angeles, Cal., and Willis A. Sutton, president, National Education Association.

The afternoon sessions were divided into admin-

istrative and discussion groups. Because of the intricate nature of these groupings, with their meetings held in many different auditoriums and hotels, no attempt will be made to give a detailed account of the programs. Instead, abstracts of speeches at the various sessions will be reported.

Belmont Farley, division of publications, National Education Association.

Richard D. Allen, assistant superintendent of schools, Providence, R. I., spoke on how a guidance department aids the superintendent in performing the functions of school administration. In outlining his experiences in Providence, he said, "In each junior high school there is an adviser for each of the six grades. The adviser has charge of the personnel records so that she can make an intensive study of individual differences; she has one hour a day for individual counseling and adjustment, and she meets each section of her grade at least twice each week for group guidance. In the senior high school the program of the adviser is much the same except that a large proportion of time is spent on individual counseling."

R. S. Proctor, New Bern, N. C., superintendent of schools for Craven County, stated that guidance is considered the superintendent's chief ally in the administration of the schools, since the ultimate aim of school administration is to provide the best possible school environment for all children. He stated that accurate and continuous records of health, achievement, interests, handicaps and other

E. E. Oberholtzer, superintendent of schools, Houston, Tex.

data are being kept for every child in the schools.

Edward D. Roberts, superintendent of schools, Cincinnati, stated that the counsel service in Cincinnati involves a series of lessons taught by counselors in the eighth or ninth grade classes. He pointed out that the advice of the counsel is not confined or primarily devoted to vocational assistance, but that, rather vocational interest of children is used as the means of giving educational advice and the best service of the counselors is that which sends boys and girls into the proper school opportunities.

David E. Weglein, superintendent of schools, Baltimore, stated that to his mind one of the most effective means of carrying out the close adaption of school activities is the work of the division of guidance and placement. He stated that the counselors in the several schools have an opportunity to find out what individual needs have to be met, and how successfully the schools are meeting them.

W. D. Armentrout, director of instruction, Colorado State Teachers College, Greeley, Colo., stated that when a graduate of a teachers' college is properly placed in a public school, the administrative officers should recognize the fact that this young teacher, like the young lawyer, physician or engineer, is not a finished product. The supervisory staff should assume somewhat the same attitude toward him that the training teacher had during his preservice training.

Frank G. Pickell, superintendent of schools, Montclair, N. J., stated that educators have emphasized the mechanics of the educational system above the orderly and psychological advancement for the children's education, and he further stated that public educators have been handicapped through the faulty training of teachers, particularly those in the primary grades and in the secondary schools.

Frank W. Ballou, superintendent of schools, Washington, D. C., stated that the most important function of a board of education is the preparation of an annual school budget, and that the manner in which the board of education deals with the public in the preparation of the budget will indicate how the board of education works with parent-teacher and other community associations.

John H. Beveridge, superintendent of schools, Omaha, Neb., in speaking on working with Boy Scouts and similar organizations, declared that in cooperating with the Boy Scout organization the schools are simply using a different program from that used in the schools, and that the Boy Scout movement is a fine supplementary program that involves the principles for the training of character and citizenship.

Thomas W. Gosling, superintendent of schools, Akron, Ohio, discussed how the schools can work with the churches and stated that while the public schools do not perform religious rites and ceremonies or appeal to children with sermons, they do prepare the way for the lessons the churches undertake to teach.

David E. Weglein, superintendent of schools, Baltimore, discussed how the school can work with political organizations. Doctor Weglein stated that a department of education, like every other branch of a municipal government, should keep the public fully informed of what is transpiring in the school system, because, in order to obtain the cooperation and assistance of the people of a community, it is necessary that the citizens have a clear comprehension of the plans of the school department.

Better Business Methods Stressed

Harry H. Baskerville, member, Los Angeles Board of Education, spoke on the subject of the public school account system. He said that the value of the public school accounting system lies not only in the proper accounting for funds, but also in the assistance that it renders in formulating policies and measuring results, and that the principles of modern commercial practice are as applicable in school management and accounting as in business management and accounting.

N. L. Engelhardt, professor of education, Teachers College, Columbia University, urged that better business methods be brought to the public schools. He declared that public school administration must acquire that kind of business skill which defines clearly the requirements of the professional personnel, so that there is complete adjustment of the individual school worker to the job that is being done.

John A. Sexson, superintendent of schools, Pasadena, Cal., discussed pupil progress in the public school systems and stated that there is ample evidence that too much faith has been placed in "cure-alls," such as homogeneous grouping and various plans and methods of instruction, and that teachers and administrators too generally overlook the necessity of dealing with barriers to pupil progress on the basis of individual pupil needs.

Topics Are Varied

Walter R. Heppner, superintendent of schools, San Diego, Cal., emphasized the value of mental hygiene in child guidance. He stated that in San Diego, in each of the nine junior and senior high schools the counseling work is coordinated by a committee of teacher-counselors, and that a biweekly meeting is held with the director of the bureau of child reference and counsel to discuss special problems. He stated that a channel of influence is thus opened for the spread of the mental hygiene point of view.

Preston H. Smith, superintendent of schools, Bayonne, N. J., stated that new curricula are needed, that the high school has outgrown its traditional clothes. The commercial curriculum, he thinks, should be revised to prepare for business rather than to produce marketable skill. Mr. Smith declared that the biggest problem is that of vocational education at the second level.

C. E. Brewer, commissioner of recreation, Detroit, stated that recreation and education leaders should work in the closest harmony and that all available facilities and equipment should be mutually used to the advantage of all concerned. He urged a summer recreation program for children that would include not only active games but cultural activities as well.

Mary L. Hahn, associate professor of health education, Michigan State Normal College, Ypsilanti, stated that the teachers who can see that one basin, no soap and cold water can not produce cleanliness; that lunches without milk or vegetables or fruits or hot foods are unsatisfactory; that poorly controlled ventilation may result in poor school work as well as poor appetites, are usually going to manage to do health work that is worth while.

Herschell Emery, director of physical education, Oklahoma City, Okla., stated that Oklahoma City has a good summer school that is based on definite

educational objectives of which the most important are the enrichment courses that are given without credit. He outlined the city playground system in Oklahoma City.

R. H. Palmer, assistant superintendent of schools, Denver, Colo., briefly outlined the summer recreation and educational program as it has been worked out in his city.

Otto W. Haisley, superintendent of schools, Ann Arbor, Mich., spoke upon the necessity of providing for the training of teachers in service.

George E. DeWolf, superintendent of schools, Creston, Iowa, stated that they have found in his city one of the most effective ways to promote the growth of teachers in service is through professional and cultural reading, and stated that they make available to their teachers a large number of carefully selected professional magazines.

Leon O. Smith, assistant superintendent of schools, Omaha, Neb., stated that both teachers and superintendents evaluate a principal by how much he can encourage, and not force, teachers to do in developing a healthier, happier and brighter childhood of to-day, which will lead to a nobler manhood of to-morrow.

Barbara H. Wright, supervisor of counselors, Minneapolis Public Schools, analyzed the follow-up studies made in her city on more than 4,000 pupils who had withdrawn from the Minneapolis schools at various schools levels. She contended that the pupils who withdrew from junior high schools were far more successful in industry than they had been in school.

F. H. Bair, superintendent of schools, Shaker Heights, Ohio, stated that from the first grade up, schools ought to offer reservoirs of information through working libraries and that they should constitute themselves debating societies and town meetings on contemporary controversial problems.

Building the Best Citizenship

C. E. Germane, professor of education, University of Missouri, stated that the child left unaided and unguided will often respond in ways that are socially desirable, exhibiting such traits as co-operation, sympathy and service, but that in far too many instances the clash between impulsive desires and duty is disastrous, developing such traits as loss of self-control, attitudes of failure, selfishness and sullenness.

James F. Hosic, professor of education, Teachers College, Columbia University, stated that citizenship may be learned through the pupils' taking part in organized social control and that publications may provide an outlet for the expression of opinion in creative production. Assemblies and other major school organizations may provide means of training in public appeal and social planning as well as in the wholesome enjoyment of leisure.

R. L. Bedwell, superintendent of schools, Yazoo City, Miss., stated that we are in a transition period, that fear is almost gone and that respect based upon freedom and understanding has not fully arrived. He said that the best citizenship cannot be built upon a foundation of fear and intimidation, and that our schools have not developed an efficient program of character training.

John L. Bracken, superintendent of schools, Clayton, Mo., said that many children go from homes in which the radio has long been commonplace to schools without radio equipment. He pointed out that adequacy demands classroom, not auditorium, installation, and that the cost is surprisingly small.

G. E. Sanberg, superintendent of schools, Rochester, Minn., stated that one means of keeping Rochester teachers in touch with the trend of affairs generally is through the local education association, the management of which is entirely in the hands of the faculty.

R. L. Lyman, professor in the teaching of English, department of education, University of Chicago, spoke on new curriculum revision in the field of English.

Why Parents and Teachers Must Cooperate

Mrs. Hugh Bradford, president, National Congress of Parents and Teachers, Sacramento, Cal., stated that parents and teachers are the two groups most interested in children and that if education is to be a unified and continuous process, it needs to be understood by both parents and teachers.

Jennie B. Smith, Marr Training School, Detroit, outlined the significance of the parent-teacher movement from the viewpoint of the classroom teacher.

Orville C. Pratt, superintendent of schools, Spokane, Wash., outlined methods of working with the parent-teacher association from the viewpoint of the school administrator.

Fred C. Ayer, professor of educational administration, University of Texas, stated that by its very nature, supervision affects the entire school program and its administration calls for definite prevision and annual planning on the part of the superintendent in charge.

E. N. Ferriss, professor of education, Cornell University, Ithaca, N. Y., said that supervision is the promotion of individuality in teachers, and that it will afford teachers many opportunities to participate in professional discussions and programs.

Many Improvements Feature New School Equipment

That manufacturers of school supplies have kept apace with the demands of education was amply revealed by the exhibits on display at the Detroit convention

By PHILIP C. LOVEJOY, Formerly Assistant Superintendent of Schools, Hamtramck, Mich.

WHILE the exhibits of the Department of Superintendence, National Educational Association, were on many different levels in the Detroit Masonic Temple, they were all on the usual high level of value and efficiency. The tremendous floor area used by the 255 exhibitors was not concentrated in one hall. Instead it was distributed among various rooms, an arrangement that was pleasingly informal.

The exhibit was excellent—well up to the standard set in former years. Thousands of items were on display. The tremendous interest of school supply and textbook concerns in the progress of educational affairs was everywhere evidenced by the type of material displayed. Although much space was devoted to standard supplies that had been exhibited in previous years, a casual glance indicated to me many new items.

It is not the function of this article to mention the tremendous strides made by the several dozen textbook concerns, simply because lack of space prohibits such a procedure. Accordingly, let us take a brief glance at the other 200 or so booths in order to discover that which is new. Specific vendors will not be mentioned because school executives can doubtless obtain from their local merchants additional information concerning any of the items mentioned here.

Immediately to the west of the registration desk was an enticing display of Indian life. The author of a well known series of readers whose hobby is Indian folklore had constructed this particular exhibit to actual scale and in the most minute detail. The exhibit left the impression that the author was well informed concerning his subject matter and that the series of texts would be alluring to little folks.

Another thing to attract my attention was a self-locking locker on display in a corner of the registration room. When I was principal of the high school I used to wonder why such affairs had been named lockers because in my experience rarely were they locked. Pupils in their rush to get to classes would slam the door, hang on the lock and scamper away. Protection was only implied. Sneak thievery was possible. But now in 1931 all this is changed. A self-locking locker is a fact. The combination is on the locker door, and while the door is open the combination cannot be tampered with. The pupil gets his arm full of books, slams the locker door shut with his elbow and, presto, the door is locked! Nothing else need be done. For those who do not care to install new locker doors with this equipment it is possible to purchase from this same company a self-locking, foolproof, combination lock. This is much the same as has been on the market before except for the self-locking feature.

In another corner of the registration room was displayed a most interesting set of forty-one demonstration specimens for zoology. One of the important features of this set is the fact that it has been put up inexpensively. A complete survey of the animal kingdom is offered. The specimens are mounted on clear glass in a good quality of glass jar that is easily opened for the inspection of the specimens and likewise as easily covered with a liquid-tight top.

An Improved Duplicating Machine

A prominent manufacturer of duplicating machines was displaying several important improvements. These improvements especially pertained to feeding: it is now possible to place a ream of paper in the feeder at the outset and have the machine work most efficiently without a skip, with perfect registration and with greater speed than before. The device looks efficient before it is set in motion, and once in action the spectator is convinced that it is a most valuable addition to school

equipment. Furthermore, several important improvements in the matter of adjusting devices have been added to this machine.

I was impressed with the fact that numerous supply houses are preparing material specifically pointed toward the nursery school. Here were fish ponds, toy sets, stand-up letters, fiber blocks and blocks and cylinders in colors, all of which would prove valuable in this particular type of school.

Talkies Are Finding Their Niche

Although it may not have been a particular part of the exhibit itself, I was privileged to attend the première of a talking motion picture by Harry Kitson on the subject of "Finding Your Vocation." This had been made by the research laboratories of one of our great producers as a result of questionnaires sent to superintendents, principals and supervisors questioning them on the type of topics they desired to have presented by the talkies. It seems that the vote centered quite specifically in the fields of vocational guidance and social studies. Whereas, last year this particular feature of the exhibit was only beginning to take shape, this year several booths presented talking pictures, prepared definitely in accordance with psychological principles. Schools have not yet determined exactly what place talkies will take in their educational programs but it may be said that the producers are endeavoring to cooperate to the fullest extent with leaders in the field of education in order to produce a product that will be of decided educational significance.

For many years teachers of mechanical drawing and correlated mathematics have desired an inexpensive compass for use in their classes. They should be overjoyed at the announcement of one of the prominent manufacturing concerns of the East to the effect that a new low cost precision compass of the beam type is now available. It is simple in operation, sells for approximately twenty-five cents and is absolutely accurate because there is no wear on the moving parts. It is rustproof, being heavily cadmium plated. One of the important features of this particular type of compass is the fact that any accidental error in setting is not multiplied. In compasses with a curved scale an error may be multiplied as many as four or five times. The scale on this beam type is graduated in both centimeters and inches and the slide is of a reversible character so that circles may be made up to eight inches in diameter. This same company has announced several new lettering pens as well as a new type of waterproof, nonsediment ink.

In an adjacent booth was a product that should be a delight to the stenographer, for here in tube form is a paste hand cleaner for the removal of hectograph ink. Because of its ease of application such a product should meet with instant approval.

A basic need in present day education is the obtaining of more education for less money. In other words, economy must be practiced at every turn. An announcement of interest along this particular line is made by a prominent manufacturer of accounting machines to the effect that it is now possible to instruct more pupils for less money in the basic principles of billing and posting. I found a machine on demonstration that would sell for approximately one-eighth of the cost of a large automatic billing machine. This particular machine is more desirable in teaching the fundamentals of billing operations than is the large machine, for the simple reason that the smaller machine demands and compels thinking on the part of the operator. This does not mean that the large machine does not have its place because of its automatic features, but as an instructional unit it would not appear to be as valuable as the smaller one.

Promoting the Economy Idea

This manufacturer has also developed for use in a cafeteria a new cash machine including a cash drawer. Two interesting features of this machine center around two keys. The top key makes it possible for the cafeteria manager to ascertain instantly how much business has been done during a given period. By locking this particular device it is impossible for the cashier to know how much business has been done, but she can record various individual items and sum up the total of any particular sale. The other key on this machine permits the manager to obtain a total for a special piece of business without affecting the amount of business that has been recorded in the other part of the machine for any particular period of time. For elasticity and flexibility of use this particular equipment would seem to be of considerable value.

In the drill hall I found an interesting device called a "Motivation Chart," which was announced as the latest invention in graphic charts. If one needs a graph in a hurry this device will satisfy the need. The bars appear like magic. No ink is necessary, hence there is no blotting; drawing instruments, cleaning pens or other tedious work are eliminated. Children can make their own graphs, the lines of which can be increased in length from day to day to indicate progress. These graph charts appear in two colors at the present time, either red or black. The uses of such a chart are legion. Plenty of space is provided for writing or lettering any caption desired. The charts may be obtained

in various sizes with numerous scale divisions.

Probably many athletic directors or managers have felt the need of an easily controlled time and score board for basket ball. Such a device was on display in the drill hall. This score board can be placed at any point of vantage in a gymnasium and yet can be operated from a set of control buttons down on the scorekeeper's table. The board itself is 2.5 feet wide by 6 feet long, with a 16-inch electric clock above. The score figures are 7.5 inches high. The clock indicates the amount of time yet to be played within any particular period. The hand can be made to move simply by punching the button in the timekeeper's hand. The scoring apparatus is operated by four motors which in turn are operated by four push buttons on the scorekeeper's table. The board can be obtained with any type of lettering and can be illuminated if desired. It works on a 110 A. C. or D. C., is easy of installation, simple in operation, well constructed and beautiful.

Where is the pupil who, working with a microscope, has not felt a kink in the back of his neck because he had to sit in such an awkward position to look into the perpendicular tube? At least two companies have remedied this awkward position by offering a research microscope with an inclined eyepiece so that it is now possible to sit in a normal, comfortable position to view the various specimens. One of these companies has produced an inexpensive microprojector which projects and enlarges the microscope slide so that a pupil may draw around the picture, as presented, on his piece of notebook paper. Such machines have previously been offered to the trade, but this seems to be the first time that an inexpensive type has been available.

New Treatment for Floors

One of the large disinfecting companies has produced a new treatment for floors of all kinds, whether of wood, cement, terrazzo, linoleum, rubber, cork, asphalt or magnesite composition. Perhaps one of the greatest trials of maintenance men is the preservation and treatment of floors. This particular product is a clear, permeating one that penetrates the floors, seals and hardens the base, dries to form a tough, resilient noncollecting surface, prolonging the life of the material to which it is applied, enriching it and holding the color permanently. On cement floors dusting is prevented while on cork and asphaltic materials drying out is eliminated. If applied in the evening it will harden overnight so that there is no loss of room use. Its covering capacity averages 600 square feet of surface per gallon for a single coat. It is most easily applied by the spray method, and the fact that it will not crack and yet will stretch should prove of interest to maintenance men.

Many times individuals have reached for their mucilage bottle only to find that the cover has stuck on, or that the brush has tended to harden. An Eastern company has developed a sort of rubber tube brush attached to a cover that will remedy serious defects previously existing in the units available.

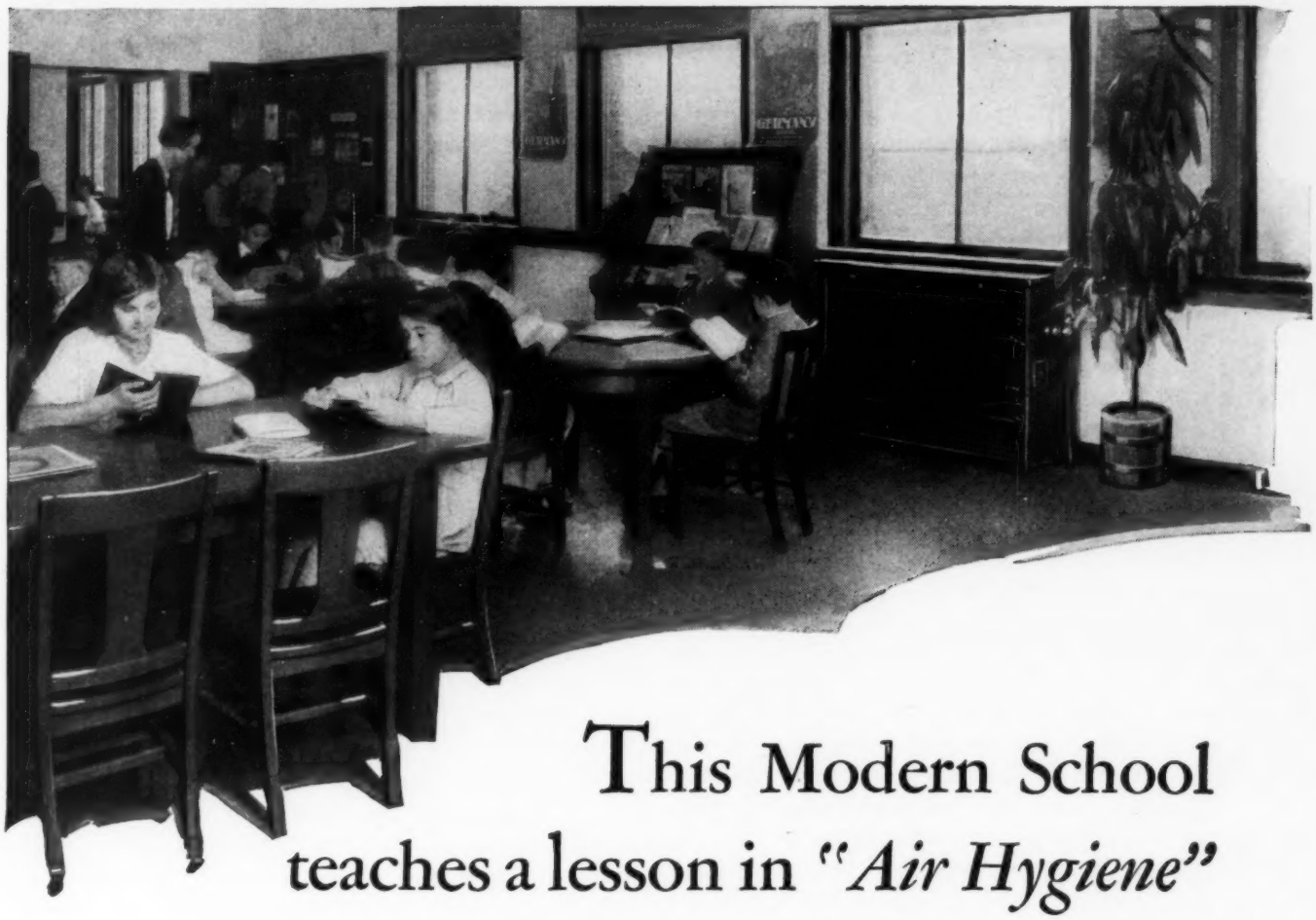
Improvements Are Many

Last year I referred to the jute plug that has met with approval by school men everywhere. This year this same company announces that these plugs are available up to two inches in diameter. Incidentally, experiments are being made to combine these plugs with types of fire resisting material, and it is expected that an important announcement will be made during the early part of the summer concerning progress in this particular field.

Likewise, last year I called attention to the fact that a prominent school supply house had developed a set of rubber roller outline maps. These were absolutely new at that time and not much experimentation had been accomplished. This year this same company is again exhibiting these particular rollers and advises that they have met with great success.

Incidentally, an excellent atlas containing the 1930 census figures has been developed by this vendor. Its size is 10.5 by 15 inches and it contains 260 pages with eighty-three illustrations and eighty pages of maps. Its index lists approximately 100,000 place names. The maps are easy to read, are printed from legible, engraved plates and are artistically colored. All the states of the United States are shown, as well as the provinces of Canada. The overseas maps show the larger cities, giving not only the English spelling but also the native spelling, such as, Wien for Vienna and Beograd for Belgrade. Probably the most valuable part of the atlas is the index, for it includes the complete listing as reported in the fifteenth Federal census. Each place has a key reference, facilitating its location on the map. Likewise, there is included a glossary of geographical terms so that one can look up such words as Arroyo, or Frith, or Ria, and have an immediate, satisfactory definition. This book should meet a ready market, especially inasmuch as it has been priced at less than $4.

Down in a little reception room I found a cubby hole containing four or five exhibitors. Over at the far corner there was on demonstration an aeroglobe which really is a colored blackboard globe. One can write on it and paint on it and then remove the writing or painting. Such a globe makes it



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...*with 34 Sturtevant Unit Heater-Ventilators*

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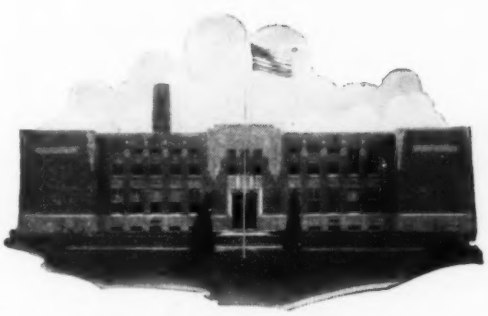
Studies of school ventilating problems lead repeatedly to the selection of Sturtevant Unit Heater-Ventilators... for old schools as well as new. Our nearest office would welcome the opportunity to lay all the facts before you.



Manheim Township Grade and Junior High School, Neffsville, Pa. *Architect and Engineer:* Henry Shaub, Lancaster, Pa. *General Contractor:* B. F. Backman, Lancaster, Pa. *Heating and Ventilating Contractor:* C. B. Weitzel, Manheim, Pa.

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much easier to trace specific voyages such as those of Magellan, or the Graf Zeppelin, or Lindbergh's flight, or Byrd's explorations. This globe is made of 16-gauge sheet aluminum on a base of spun steel. Its diameter is 22 inches and its height but 26 inches. It weighs approximately ten pounds. The uniqueness of this globe rests in the fact that it is painted, instead of having a printed paper surface. The finish is extremely durable and even if the globe were to be dropped the most serious injury would be a dent that could be easily removed and the paint renewed.

One of the manufacturers of gelatin surface duplicating machines announces several important improvements in that a new moistener has been developed, as well as a two-way wind with a steel cable on improved gears. It is said that economy, speed and accuracy are the results of the improvements.

As usual, the scientific companies have developed many new demonstration devices for use in the various laboratories. One company was exhibiting a special machine to instruct students in the principle of 60-cycle alternating current. Another demonstration was being given of radio activity. School men interested in such apparatus can, of course, obtain most complete information by corresponding with the several well known companies in this particular field.

An important problem in school administration is to obtain as nearly as possible 100 per cent use of all equipment and every classroom. Manufacturers of school furniture seem to have this in mind, for each year at the exhibit there have been presented several new features that have been pointing in this particular direction. This year one of the Michigan manufacturers offered a new combination bookkeeping-typewriter-academic subject table. Sufficient overhanging of the top has been arranged so that it serves as a comfortable desk for a pupil in bookkeeping or academic subjects. It is easy to convert this desk into a typewriter table and still leave space for notes and papers. This company has also developed its art table so that it now takes on the aspect of an easel at which one may stand or sit while working in perfect comfort.

Classroom Table Improved

The classroom table has been improved since my report of last year. A tubular arm of much stronger quality has been constructed. Posture has been considered in the manufacture of the seat and back. The outfit is absolutely noiseless, better constructed, and will care for the left-handed pupil as well as for the right-handed. The research on the part of this company seems to indicate that it desires to develop units that shall enhance educational economy.

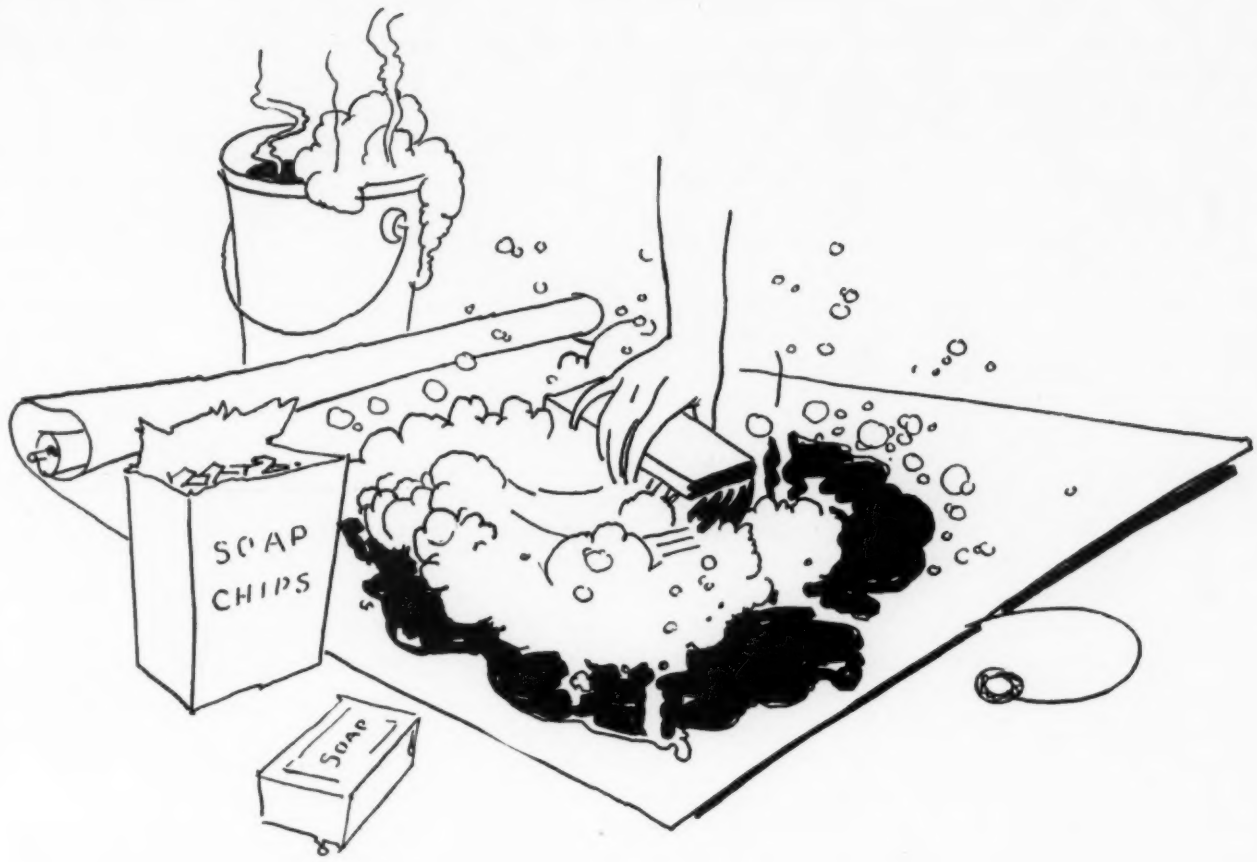
An Eastern manufacturer is presenting a modeling clay composed of materials that keep it plastic at all times. It requires no water and will withstand all climatic conditions. It is antiseptic and harmless, and actually improves with age. The material will not stick to the pupil's hands and when it is molded it presents an even and plastic texture. It is provided in a variety of colors.

Tables, Chairs, Maps

Those school executives who desire their cafeterias to be furnished with small tables for four will find the circular table offered by a Pennsylvania concern to be of considerable interest. This particular table has saddle seats and fitted chair backs, which promote unusual comfort and a desirable repose. The table is substantially constructed with metal work that is composed of malleable iron. The top is round and 36 inches in diameter. It is about 30 inches high and its wooden parts are made of selected maple and birch. The maximum seating can be arranged on 67-inch centers. A room equipped with these tables is easily and quickly cleaned since there is only one point of contact with the floor, the chairs being made an integral part of the unit, attached by swivel arms to the base. These chairs turn completely under the table when not in use, thus leaving clear aisle space between the tables. The chairs may be approached from either side. Crowding and jostling are prevented and a quiet dignity for the dining room is provided.

Each year some company presents a new type of chair. This year I found one made of steel, supplied in various colors, weighing about 8.7 pounds. It is made of seamless, tubular steel, electrically welded, and is cross braced. The chair will stack 1.75 inches in depth and appears to have remarkable rigidity. It is clean and compact, easy to fold, is provided with rubber feet, has removable upholstering and apparently is of a durable type.

Of course, map companies are constantly presenting new maps, globes and charts to keep abreast of the changing world. One company has a new series of geographical maps made on the eumorphic interrupted equal area projection, which is one of the most important contributions to map projection in many years. This particular type of projection is superior to those formerly used in that it prevents great angular distortion as well as scale error. This particular type of projection is said to be the mathematical mean between the sinusoidal and the elliptical. At a



And the good news is . . .

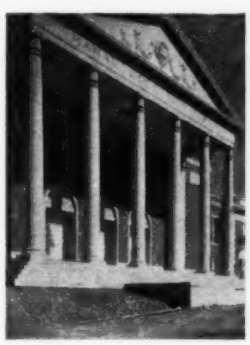
You can scrub this window shade

NO WONDER Tontine Shades can be kept spick and span. They're washable. Think how much that saves in replacement costs. An ordinary shade must be replaced when it gets soiled. A Tontine Shade you just have scrubbed with soap and water. It emerges as fresh as when new. For scrubbing but renews its beauty.

Tontine Shades are impregnated with pyroxylin, the same basic substance used in the famous Duco finishes for cars and furniture. That's what makes them washable. It makes them extra-durable, too. They don't fray. Or crack. Or pinhole. Sun doesn't fade them. Rain won't spot them. They are sturdily resistant to wear and the careless usage that's the fate of a shade in a public building.

That's why from one end of the country to the other you find Tontine Window Shades in hotels, hospitals, apartment houses, schools, offices and other large buildings. They're good looking. They last for years on end. And they're washable.

For complete window shade satisfaction, have your du Pont Tontine Shades mounted on Tontine Rollers. The coupon below will bring you samples.



The Mamaroneck High School, Mamaroneck, N. Y., one of the most modern of school buildings, is shaded with du Pont Tontine Window Shades. They were selected because, when soiled, they can be taken down and scrubbed, They'll come out spick and span, clean and fresh. Also, they can be depended on for years of hard wear.

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Please send me samples of Tontine Washable Window Shades and complete information about them.

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glance school men will understand that by the use of this projection pupils see different parts of the world in the same areal relations as on a globe, thus correcting many erroneous ideas about relative size. The conventional and local spellings are presented.

This company has also prepared a series of economic geographical maps concerning the products of the world, as well as products of the industries in the United States. The United States set contains ten maps while that of the world consists of eighteen.

A relief globe, 15 inches in diameter, showing the major relief features of the earth effectively but without undue exaggeration, has also made its appearance. Principal mountain ranges in relief are given, with a minimum of detail. The relief is so graduated as to present clearly the comparative forms from the highest elevations to the great lowlands. Continents are presented in contrasting colors, while the oceans appear in dark blue. The globe is nameless but important cities are shown by small, solid circles. The globe is valuable for the lower grades as well as for sight saving classes and schools for the blind.

Many other interesting maps have made their appearance and any school man who is interested may secure additional information by referring to the several map catalogues.

An Interesting Ventilating Device

One of the most interesting developments in school ventilating devices is that presented by an Illinois firm. This consists of a single room unit which will circulate fresh air throughout a room without overheating. This particular system contemplates the positive and controllable mechanical introduction and thorough diffusion, without drafts, of outdoor air into school classrooms, while at the same time it reduces overheating and resulting odors. It seeks to remedy numerous current inconveniences and errors in ventilation. After the artificial heat supply has been stopped and the temperature still continues to rise because of the body heat given off by the room's occupants or because of the effect of sunshine or heat from other uncontrollable sources, the system introduces by mechanical means cooler outdoor air in a manner to avoid drafts.

This air is properly filtered and cleaned to effect the removal of dust and other organic matters. Compensation is likewise made for varying degrees of humidity. This system has a direct tie-in to the thermostatic control of the radiators within any given room and should immediately compensate for special outdoor weather conditions. In other words, this particular ventilator acts in accordance with the natural human needs. It arranges for full heat delivery within the room and for the recirculation of air when necessary, and it shuts off the radiators to restrict the heat supply at the proper moment. It recirculates air without heating for the purpose of air motion and distribution, admits outdoor air when necessary and provides conditions that are conducive to the best mental effort on the part of the occupants of the room.

Thus I conclude my hasty review of the majority of specifically new items, with the exception of textbooks, that were on exhibit at Detroit.

Rutgers University Sponsors Educational Tour

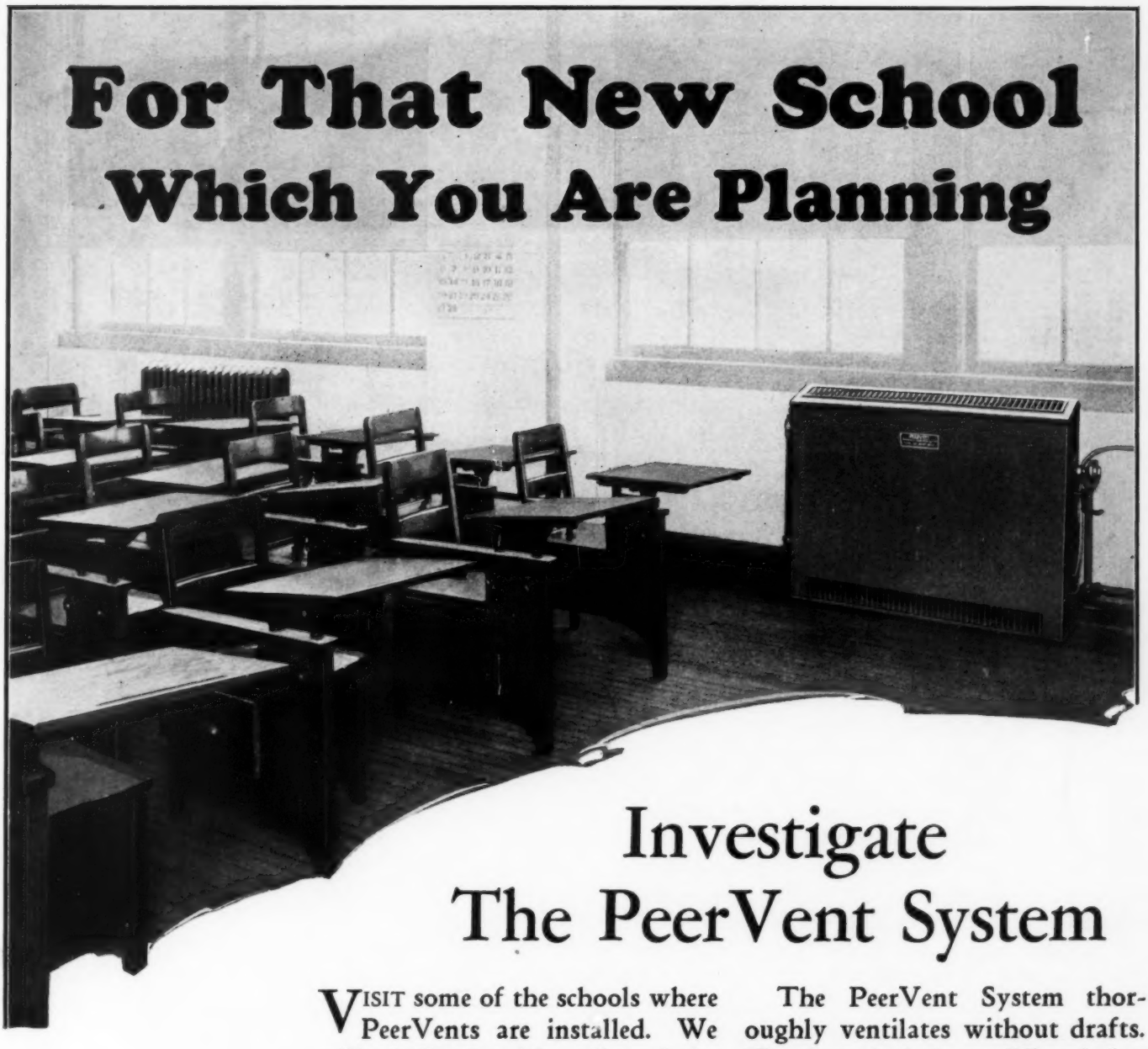
Study and observation of the novel manner in which Russia has undertaken to educate her citizens "for life" will be an important part of the comparative education tour, to be led by Dr. Daniel A. Prescott, associate professor of education at Rutgers University, New Brunswick, N. J., as part of the three-fold tour to Europe which the Rutgers University Extension Division will conduct this summer. With Russia abolishing the typical subjects from her schools, with Germany undertaking an extensive reorganization of elementary education and teacher training under the republic and with Scandinavia and Vienna stimulating considerable thought and international comment by new forms of adult education, there is more of an educational challenge for teachers and educators in Europe this summer than ever before. College credits will be awarded to the teachers on this tour.

Doctor Prescott, who will be in direct charge of the comparative education tour, has spent two years abroad recently. The first year of this period he spent on research under the auspices of the bureau of international research, Harvard University. The second year he spent as visiting instructor at the Institute J. J. Rousseau, Geneva, Switzerland. He is the author of a recent work on education and international relations, published by the Harvard University Press.

The group under Doctor Prescott will have the unique opportunity of combining observation with actual study through a course in comparative education, which offers the students a study of European educational systems of widely differing and sharply contrasting types.

Russia, Germany, Austria, France, Sweden, Finland, Denmark, Switzerland and Poland will be among the principal countries visited during the two-months' tour.

For That New School Which You Are Planning



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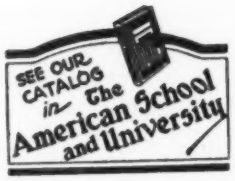
VISIT some of the schools where PeerVents are installed. We will gladly furnish a list of the PeerVent-equipped schools in your vicinity. Talk with the building superintendent and get his reaction. Note how noiselessly these PeerVents operate. See how easily all parts of the unit are removed without tools. Note the sturdy construction of the fans, motor, PeerFin radiator, dampers, etc.

The PeerVent System thoroughly ventilates without drafts. The heated air is so diffused that it is possible for a person to sit close to the unit without being uncomfortably warm.

Peerless Engineers will gladly assist in the preparation of specifications and submit estimates without obligation on your part. Avail yourself of this service. Write for the Peerless illustrated catalog.



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Resident Engineers in Principal Cities from Coast to Coast

Schoolhouse Planning:

Appraising the Existing School Plant

An analysis of the field of activities that is involved in applying survey information and educational standards to present schools

By ARTHUR B. MOEHLMAN, Professor of School Administration and Supervision, School of Education, University of Michigan

IN OUR consideration of the factors involved in the development of a public school plant program we have successively considered the value and meaning of educational policies; the relation of the school plant activity to the rest of the executive organization; the industrial and sociological survey of the community; the prognostication of probable future growth; the activity of educational designing, and the methods of securing architectural service.

With these phases of the program completed, it is now possible to apply our findings to an appraisal of the existing school plant and thus come one step closer to the basic purpose of the survey, the development of the ultimate plant. The next four articles will consider in some detail the technique of current plant appraisal.

The results of all of the activities undertaken earlier in this study may now be applied to the existing schools. The outcome should be a final three-way classification of schools as good, fair and poor.

Buildings judged as good are those that are sound in construction and satisfy the following criteria: (a) instructional efficiency, (b) constructional efficiency, (c) mechanical efficiency, (d) space efficiency.

A building rated as fair is one that is sound in construction but that does not satisfy the criteria of mechanical efficiency or of flexibility and expansibility and that could not, from an engineering standpoint, be economically remodeled.

Buildings judged as poor include those that do not satisfy the criteria of (a) instructional efficiency, (b) constructional efficiency, (c) mechanical efficiency or (d) space efficiency.

The purpose of this final classification is to group the buildings (good) to be retained in the ultimate plant and to separate into two divisions those units that will not be ultimately satisfactory. The second (fair) group represents a classification that does not call for immediate replacement of the building which in all probability will be allowed to serve its economic life. The poor group comprises those buildings that must be replaced in the interests of instruction, safety and economy at the earliest possible opportunity.

How the Appraisal Is Made

This final three-way appraisal of buildings and sites is accomplished through a series of appraisals of specific qualities or factors that must be studied separately and then finally weighed proportionately, in the terms of the specific and general field problems. There is at present no completely objective technique for such an appraisal, for every situation presents a series of peculiar local variables that must be given careful consideration and weighing. It is doubtful whether it will be possible to make these techniques completely objective. Standardization in terms of a mean is neither essential nor particularly desirable if we bear in mind the fact that every school plant program is essentially a custom built plan.

There are seven large groups or divisions of factors upon which each individual school building should be appraised both in its own relative and immediate existence and in terms of its relation to the larger community plan. These include the factors of (1) mechanical efficiency, (2) instructional efficiency, (3) space efficiency, (4) location, (5) site, (6) current use and (7) pos-

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The class waits eagerly. The motion picture projector is started. With their eyes on the screen, the pupils roam the world. They see the wonders of distant countries... the Aladdin's magic of modern manufacturing... animals... plants... the mysterious workings of the universe... all presented in vivid motion pictures specially prepared for classroom use.

What a spur to the imagination ... what a force for stimulating original ideas... and what a challenge to the pupil's vocabulary lies in this visual experience!

The value of Eastman Classroom Films is not confined to the knowledge they impart. Even more important is their ability to stir the imagination and inspire the pupil to express his ideas in his own words. The films serve the same purpose as personal experience, but with an economy of time and effort.

As the films are viewed, the words of the text-book and of the teacher's discussion are defined by action pictures on the screen. The pupil's vocabulary is founded on exact conceptions. Words become easier for him to use—and he uses them accurately, logically.

* * * *

Eastman Classroom Films are not a substitute, either for the teacher or for long established classroom methods and devices. School authorities are beginning to realize more and more the significant value of Eastman Classroom Films in *supplementing* other teaching devices in the modern classroom. They are now used in more than 200 cities and towns of the United States, and in thirty foreign countries.

For full information and descriptive literature, address: Eastman Teaching Films, Inc. (Subsidiary of Eastman Kodak Company), Rochester, New York.

EASTMAN *CLASSROOM FILMS*

sible future use. The standards for judging any of these factors are derived primarily from the adopted educational policies of the board of education. In discussions of the value and need of these policies in earlier articles, great stress was placed upon the fact that no appraisal of the existing plant and no determination of the ultimate plant could be made unless such general and specific policies actually existed. At this point the application is made, and it must now be obvious that the only legal basis for appraisal standards must be found in the operating or adopted educational plan of the board of education. The more clearly and directly these policies have been stated the more intelligent the appraisal of the existing plant may be. These officially adopted policies of the board of education are also the only real legal protection an executive has in the development of the school plant program. Through them the responsibility for general planning is placed where it belongs—in the legislative group. The executive is merely carrying out the will of this group by applying its policies to existing conditions.

Many of the items that ordinarily fall under the head of mechanical efficiency are so closely related to instructional efficiency that it is difficult and possibly unwise to separate them. They will be considered under the instructional division. It is possible, however, to judge mechanical efficiency in certain aspects as isolated from all other factors. These include upkeep and operating costs. It is easily conceivable that a building might satisfy instructional requirements fairly well, yet, due to the type of construction and the climate, the cost of heating might be so high that the question of retention might be questioned. It is further conceivable that a building might meet instructional needs yet require so much outlay for annual repairs, because of constructional peculiarities, that the wisdom of future operation would be debatable.

Why Cheap Buildings Are Costly

The quality of school plant construction is determined by the technical design, the quality of construction materials and by the degree of care exercised in inspection at the time of building. Numerous school plants, carefully designed and high in specification quality, show unusual upkeep costs a few years after their erection. The answer probably lies in the type of constructional inspection. Structural design, specification quality and exacting construction inspection are three inseparable factors in the development of a satisfactory physical plant. Neglect of any one will certainly cause financial trouble later on.

Certain boards of education, having economy as their outstanding demand, buy a building that has been skimped and stinted in its development. Mediocre materials are specified, footings are too thin and specifications are so loosely written that contractors have much leeway in interpreting them. The inspection of buildings of this quality also tends to be lax. This peculiar notion upon the part of certain boards of education that it is possible to plan and to buy a cheap building and then have it as economically serviceable as first class construction is difficult to understand. Men and women who as private individuals would not buy shoddy clothing apparently believe that cheap buildings are good economy. In actual fact the reverse is true. Cheap buildings are extravagances no community can afford.

The Criterion of Constructional Efficiency

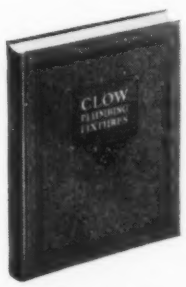
Once a building has been completed it is difficult to determine what happened during construction. The skimming of the concrete, the use of unwashed gravel, the proper cold weather protection of the work, the quality of mortar and the quantity and distribution of mortar are hard to discover in the early years of a building. Paint is an excellent screen. The best criterion of constructional efficiency is the upkeep index. The simplest manner in which these data may be studied is the determination of the direct construction cost of a plant and the relation of the annual repair program over a period of five to ten years in terms of the percentage relationship to the construction cost.

In older buildings this ratio tends to be higher because of the change in purchasing power during the past three decades. To make the study exact it would be necessary to equate this purchasing power in terms of the purchasing power at time of building. For all practical field purposes this is not essential since it is the present outlay that is of interest to the board of education. Again, in most of these buildings (especially the old closed plan types) there appears to be a fairly close relationship between constructional and instructional efficiency, although possible exceptions have already been noted. A period of at least five years, or ten, is necessary to secure a fairly accurate index. Repairs to buildings apparently are bunched in certain periods owing to board of education repair policies. Few boards apparently meet immediately every slight repair demand. The tendency is to allow them to accumulate. In times of financial stress the upkeep division of the budget is the first to feel the knife. The ideal situation would be to secure the complete upkeep history of each

As the Plans Are Drawn Three Ghostly Generals Ride

As the plans for any public or semi-public building, involving plumbing and plumbing fixtures, are drawn, three grim shadows mount ghostly steeds and figuratively start for the job.

They are: *Failure, Short Life* and their hideous brother in arms, *Insanitation.*



No matter what your interest in plumbing may be don't hesitate to call in the Clow Soldier of Sanitation. Behind him stands the most complete line of specialized plumbing fixtures in the world. Or ask for the Clow Catalog covering the type of building you are interested in.

They lead unseen armies to attack any fault or flaw in design, construction, quality or fitting of the plumbing fixtures. Whether these three notorious generals and their commands reach the job you are planning or not depends upon what is written into the specifications.

For 52 years the Clow Soldier of Sanitation has been fighting and defeating this enemy.

To this end Clow has developed a line of specialized plumbing fixtures unrivalled anywhere in the world, designed particularly to meet the acute needs of schools, hospitals, industrial plants and public buildings as well as dwellings.

And Clow goes to unmatched lengths in assuring that these fixtures will meet those needs. As a matter of fact, all fixture batteries are set up completely before shipment and tested under conditions simulating those of the actual installation.

Write such plumbing into your specifications and the three notorious generals and their ghostly hosts are routed before the plumbing fixtures are even installed.

CLOW

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PREFERRED FOR EXACTING PLUMBING SINCE 1878

Consult your architect

building from the time of its construction down to the period of appraisal. Few boards of education keep such extensive records and except in a few instances this complete building history is almost impossible to obtain.

The variation in upkeep within any given district tends to be large. Following are the upkeep raw ratios for ten buildings in a certain school district for a five-year period:

Building	*Average Upkeep (Per Cent)*
A	0.07
B	0.07
C	0.19
D	0.55
E	0.87
F	1.31
G	2.46
H	3.90
I	4.61
J	10.79

Buildings A, B, C and D were fireproofed construction. The rest were brick and wood joists construction. If the previous history of buildings F, G, H and I had been available, the average upkeep ratio would probably have been much higher. There were verbal recollections of numerous changes but no available records to verify the amounts. The longer the period of study for upkeep costs, the greater the possibility of determining more accurately the relative constructional efficiency.

In general, if this constructional appraisal shows an average annual upkeep cost over 5 per cent of the original cost, it is debatable whether the building should be retained in the ultimate plant. If the average annual upkeep cost approaches or exceeds 10 per cent of the construction cost, it is certain that the retention of such plants would not be intelligent economy.

In appraising the constructional efficiency it is desirable to use not only past experience but also to consider the possible future claims for renewals. Upkeep policies vary so much by school districts that past experience is only one factor. As will be noted later, the experience for the preceding five-year period may have been favorable. The claims have merely been allowed to accumulate. At this point the services of the architect and his engineering assistants and of the maintenance engineer, if the system is large enough to possess one, are invaluable to the educator. Without their advice and the results of their technical studies, it is practically impossible for the average educator to appraise intelligently the possible near future upkeep needs of many of these old plants. Studies of past experiences and possible future needs must go hand in hand in this field.

The cost of operation is another definite factor. Sometimes this reflects the general inefficiency of the plant or the presence of accumulated needs. It may also be an index of personnel inefficiency. Too little careful research has been made in this field to use any of these data dogmatically. Each case must be studied carefully in terms of all of the ascertainable variables. Aptly illustrative of this condition are the data for operating (heating and cleaning) the ten plants whose upkeep ratios were given earlier. In this instance, because of the nature of the heating plants and the personnel policy, it was impossible to separate cleaning and heating. The following data, as a result, must be considered as containing mixed elements.

1929 UNIT

Plant	*Operating Cost*	*Rank*
A	$12.70	1
B	15.19	5
C	12.70	1
D	17.18	6
E	12.70	1
F	20.20	9
G	17.88	8
H	36.17	10
I	17.36	7
J	14.91	4

The range is from $12.70 (Building A) per 100 square feet of floor space to $36.17 (Building H) for the same area in the same year. Building H showed an average annual upkeep cost of 3.90 per cent. A careful study of this plant in terms of these data indicated that it would be necessary to spend considerable money upon the building in the near future to renew the existing heating plant. Almost the same condition confronted Building J several years earlier.

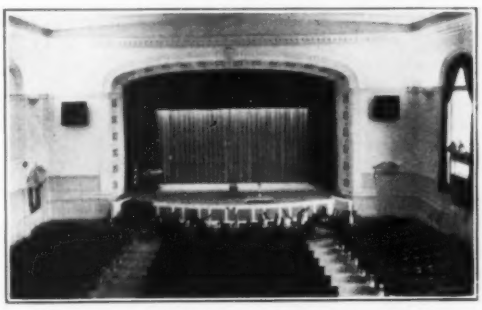
The average upkeep costs of Buildings A and B were the same. The quality of construction was similar according to specifications and appearances. Building B was a junior high school while Building A was an elementary school. The junior high school cost $2.49 per unit more to operate. The reason was not ascertained although it follows a noticeable tendency in differences between elementary and secondary buildings.

If we also except Building F, in which the need for large repairs was also noticeable, the remaining variations must be studied in terms of efficiency of building plan and of operating personnel.

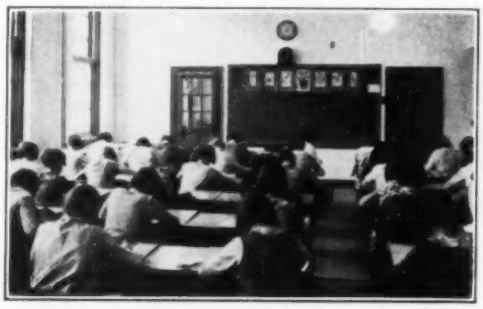
In developing the field data for operating efficiency it is desirable to separate heating and cleaning as carefully as possible. The unit of measure for heating efficiency is volume and for cleaning is area. One thousand cubic feet is taken as a general heating unit and 100 square feet of floor space as a cleaning unit. These data, or-

A No. 9 Horn with No. 207 Wright-DeCoster Chassis furnishes reproduction in the gymnasium of the Upper Darby Junior High School.

Hyflux Speakers are also installed in the shop rooms of the Upper Darby Junior High School.



The large auditorium of the Upper Darby Junior High School is equipped with two No. 4 Baffles with No. 207 Wright-DeCoster Chassis.



One of the class rooms in the Upper Darby Junior High School, with Hyflux Speaker.

Keep Step With Progress—
The Modern School Needs A Sound Equipment System

SCHOOLS which have installed sound amplification equipment, have found numerous uses for it far beyond their original expectations. In addition to furnishing a means of communication to class and shop rooms, gymnasium, auditorium and other points from a centrally located microphone, for instruction, talks, etc., radio programs of educational value and music can be reproduced as well as phonograph records.

WRIGHT-DECOSTER REPRODUCERS

are giving remarkably satisfactory service in many schools because of their superior tonal quality, clarity and volume. Their true reproduction and distinctness coupled with a good sound equipment, have made them the choice of sound engineers and schools who want the best reproduction possible.

ARROW ELECTRIC COMPANY
5112 Whitby Avenue
Philadelphia, Pennsylvania

February 23, 1931

Wright-DeCoster, Inc.
Saint Paul, Minn.
Gentlemen:

Regarding the sound installation which we made at the Upper Darby Junior High School, Upper Darby, Pa., there were 54 Hyflux speakers installed in the class rooms and shops. A No. 9 Horn with No. 207 Chassis was installed in the Gymnasium and two No. 4 Baffles with No. 207 Chassis were installed in the large auditorium.

The system was tested by Dr. Josiah H. Penniman, Provost of the University of Pennsylvania and many others on the formal opening and dedication of the school. The Wright-DeCoster Speakers gave entire satisfaction and have been giving excellent service since they were installed.

We have had several favorable comments in the press regarding this installation and we feel it will be only a short time when this system will become the standard equipment of all schools in this section.

Yours Respectfully,
ARROW ELECTRIC COMPANY
By: George W. Carns.

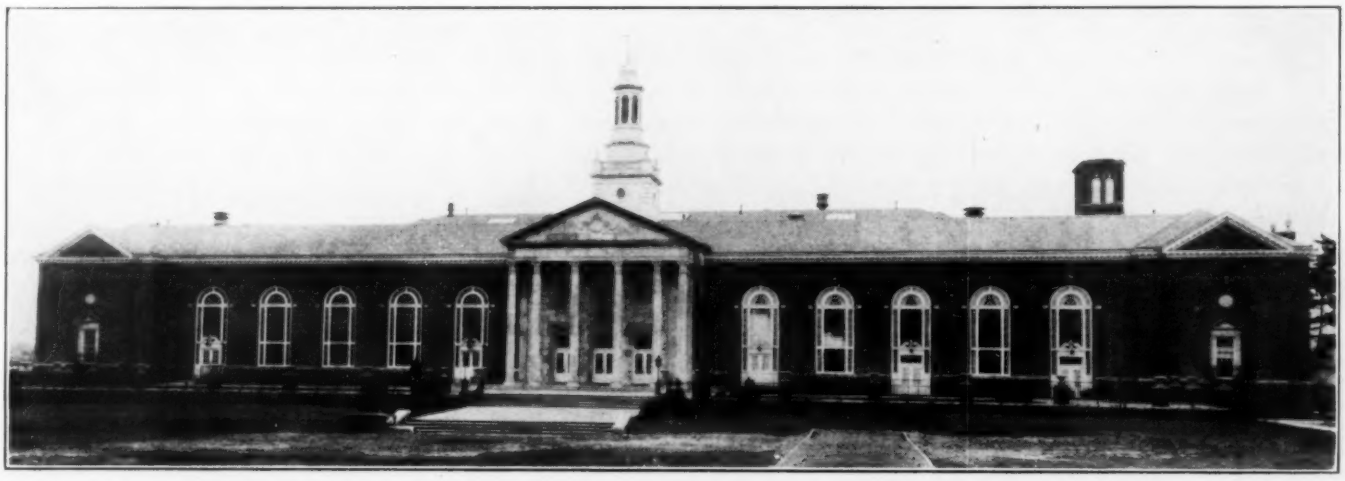
Write for complete information and address of nearest sales office

WRIGHT-DECOSTER, INC.

2247 University Avenue **St. Paul, Minnesota**

Export Dept.: M. Simons & Son Co., 25 Warren St., New York.
Cable address: Simontrice, New York.

No school sound equipment is more modern or more efficient than that installed in the Upper Darby Junior High School.



ganized statistically, will serve as a general indicator of specific problems to be studied. At the present time they have no immediate validity but are valuable as indices and pointers. These problems should be given careful study because the expenditure of much money hinges upon the result. One illustration may suffice.

In the survey illustrated here Building J was indicated for early removal in terms of its apparent general condition. Its location was to be retained in the ultimate plant. The district growth was normal in terms of the entire district. Without this study of upkeep and operation, the decision might have been made to replace it immediately with a new building. Analysis of upkeep (10.79 per cent) indicated that most of this had been spent to renovate the heating plant and in terms of this change the operating cost was now $14.91 per unit per year instead of $38. As a result the conclusion was reached that the building should be classified in the final appraisal as fair rather than poor and thus allowed to work out its normal economic life expectancy.

In light of the other more pressing needs and the financial condition of the community, this was indicated to be good practice. Without a careful study of the mechanical efficiency, both structural and operating, and without a further analysis of these raw data, the obvious recommendation from a "high spot" survey would have been immediate elimination. Every community faces the same replacement sequence problem which must finally be considered in terms of all contributing factors. The expenditure of money for a survey of the mechanical efficiency of a school plant will amply repay the district in direct savings, either through increasing the efficiency of the operating personnel or by the possible retention of the building for a five or ten-year period.

What One Superintendent Thinks About Free Textbooks

M. L. Duggan, state superintendent of schools for Georgia, says: "There are many appealing arguments against providing free textbooks to the children but no theoretical argument presented has been convincing to me. A serious condition revealed to me by statewide personal investigation convinced me of the advisability of the free use of textbooks provided by the state. I discovered many years ago that in practically all of the schools of the state some days' time was wasted at the beginning of each year waiting for the children to be provided with textbooks, while in large majorities of our rural schools several weeks' time of both the teachers and many of the pupils was similarly wasted. I found, furthermore, that a surprisingly large number of children in many of our rural schools were attending more or less regularly throughout the entire school year wholly or partly unsupplied with textbooks. It was not a question as to whether their parents were not able to purchase textbooks or were negligent about it. The fact remained that the schools were being operated under these conditions.

"I submit that the state is wasting more money in paying salaries of teachers during the period while a large percentage of the children have no textbooks than it would take to supply the essential textbooks. Even worse than a waste of the teacher's time and salary is the waste of the golden opportunities of these thousands of children. Thus the advisability of free use of textbooks became with me a practical business proposition rather than one for academic discussion. With the free use of textbooks supplied by the state we would no longer have with us any problem of uniformity. The solution of this problem would also very greatly help the problem of attendance."

How Intelligence Tests May Reduce the Schooling Period

That nearly half of the 7,500 children who enter the schools of Buffalo, N. Y., each year should be able to complete the grades in less than the standard eight years is the opinion of Alice Langworthy Black, psychophysiological examiner for the division of child welfare of the department of health, who has recently concluded a study of 1,300 grammar school children of Buffalo. The results of the study are reported in the *Survey*.

A careful use of intelligence testing would promote effectiveness, order and economy in the schools, the examiner emphasizes. The present data suggest that grammar school children could profitably save about 1.15 years during the course. Estimating the teaching cost at $140 a year for each child, the resulting saving to the school system would be at least $400,000 a year after liberal allowance was made for the cost of maintaining a staff of mental testers to determine the child's ability.

Then, too, an adaptation of the child's course to his ability would promote a greater interest and effort on his part and would prevent many conduct disorders that are frequently due to the boredom that bright children undergo under a too-easy system.

Safe, Sanitary Cleanliness

The *appearance* of cleanliness is no assurance that walls, floors, tile, and enamel surfaces are sanitarily clean. The cleaning material you use must do more than give you what *appear* to be clean surfaces.

Sanitary cleanliness is the outstanding achievement of Wyandotte Detergent in school cleaning. Wyandotte does more than remove the dirt and dust which the eye can see. It removes the grease films which collect dust and in which bacteria breed.

Wyandotte gives you sanitary cleanliness with safety to the things it cleans. Painted surfaces have been washed with Wyandotte Detergent 142 times before a trace of wear appeared. Floors can be mopped day after day without damage. Enamel surfaces show no scratches after repeated washings with Wyandotte Detergent.

Tile in and around swimming pools will not be slippery if washed with Wyandotte Detergent. Wyandotte completely removes dangerous grease films which are not apparent to the eye.

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The J. B. Ford Company Wyandotte, Michigan

Your Everyday Problems:*

Insuring High School Athletes in Wisconsin

By JOHN GUY FOWLKES, Professor of Education, University of Wisconsin

THE question of accident insurance for high school athletes has been considered for many years by all those interested in the administration of public schools.

Up to 1930, however, the prevailing policy has been one whereby the school has assumed no responsibility for injuries to its pupils in athletic contests. This policy has been encouraged by the consistent rulings of the courts to the effect that a school is not responsible for bodily injury suffered by a pupil in connection with any regular school activity. The general attitude reflected by school administrators toward insurance for athletes has conveyed the belief that participation in high school athletic contests should be given no more protection against injury than participation in regular classroom work. While such an attitude has much to support it, on the other hand there is much greater probability of a broken leg while the pupil is playing in a football game than while he is participating in a recitation.

The Limited Accident Plan

With the conviction that something should be done about protecting high school athletes against injury, the Wisconsin Interscholastic Athletic Association inaugurated a limited accident plan in September, 1930. So much comment has been made concerning the plan that it seems desirable to present the plan along with a report of its operation through the month of December as offered in the Wisconsin Interscholastic Athletic Association bulletin. The material presented here is summarized from various issues of the reports.

In brief, the plan is as follows:

All high schools in the state may profit by the plan.

The plan is to be administered by a board of control of the Wisconsin Interscholastic Athletic Association.

The plan proposed for the year 1930-31 is experimental.

The plan is limited in scope.

There is no way of knowing what it may cost.

The board of control feels that complete coverage can be had at an exceedingly low cost.

The plan proposed for the year 1930-31 is not in any sense insurance but simply a mutual benefit plan for protection.

For the year 1930-31, there will be no charges to the member schools.

The surplus now in the Wisconsin Interscholastic Athletic Association treasury will be used to pay the accident benefits.

The following table of benefits was adopted for the year 1930-31:

Entire sight of one eye, if irrevocably lost	$200
Both arms broken above the elbows	150
Both legs broken above the knees	150
Both bones of either arm broken between wrist and elbow	100
Both bones of either leg broken between ankle and knee	100
Either leg broken above knee	100
Either arm broken above the elbow	75
Either bone of either leg broken between ankle and knee	50
Either bone of either arm broken between wrist and elbow	50
Collar bone broken	40

Any school by paying its annual dues and making the required reports and submitting all information called for by the board of control may secure the benefits of the plan.

The member schools must file with the secretary of the board a parents' release and physician's physical condition statement.

The blanks required must be signed and filed by the principal of the member school.

These blanks must be on file at the office of the secretary no less than forty-eight hours before the injury occurred.

Only those boys for whom the principal has filed

*Discussions in this department deal with problems that frequently confront principals and superintendents. Inquiries on problems of this nature should be addressed to Doctor Fowlkes.

Give the lunch-room boys and girls A REASON

One of the easiest ways to influence the child's selection of proper foods is through the use of posters. They may be drawn on the blackboard, or prepared and colored by the children at their desks.

"CHILDREN should be taught some authentic reasons for eating fruit daily—reasons which they can understand and appreciate," writes a well-known teacher of home economics, in a recent article published by *Normal Instructor.*

This authority states that the chief reason is the health-giving Vitamin C found in fresh fruits. She advises teachers to get and use for their classes the stories of explorers and adventurers whose lives have been protected and even saved by including fresh fruits in their diets.

Such a story is that of "Count Luckner, the Sea Devil," as published by Doubleday, Doran Company. Half dead and adrift in an open boat on the South Seas, Luckner and his five shipmates discovered a tropical island and its life-giving fruit!

"It is amazing the curative effect of fresh fruit," says Count Luckner, "especially bananas, when you are suffering from scurvy. They seem to put new life and blood into you and draw the sickness right out of the body as though some huge and marvelous poultice had been applied."

We have printed this thrilling *health story* as a folder. Let us send you several copies for your school health work, together with a reprint of the valuable article quoted above, "Teaching Children to Eat Fruit Regularly." You will find both most usable. The coupon will bring this material free.

"The Director of the lunch-room seems to be the logical person to assume the portion of the health work that may be taught through the service of food." Edith Sauers, Manager, Central High School Lunch-room, Cleveland, Ohio, in The Nation's Schools, June, 1929.

UNITED FRUIT COMPANY N. S. 3-31
Educational Department
1 Federal Street, Boston, Mass.

Please send me free (5) (10) copies of Count Luckner folder and the reprint, "Teaching Children to Eat Fruit Regularly."

Name.....

Address.....

City..... State.....

the required blanks may receive accident benefits.

The board of control is not authorized to sanction contests for girls, and consequently girl pupils of member schools cannot be compensated for injuries.

Member schools may purchase the necessary blanks from the secretary at seventy-five cents per one hundred, or they may print their own blanks providing they conform in size and wording to those published.

The board of control will not pay injury benefits to coaches or other members of the faculty.

In order that a school may receive injury benefits, the accident must occur either during a game or on the regular field or floor of the school at a regular scheduled practice.

Benefits will be paid only for accidents that occur during a game or in practice.

The board of control hopes to be able to pay the schedule of benefits for football, basket ball, track, golf, tennis, skating, baseball and swimming. It does, however, reserve the right to discontinue the benefits on January 1, 1931, or on April 1, 1931, if experience at that time seems to warrant such a discontinuance.

In order that a school may receive the accident benefits in case of an injury to its athletes, the principal must file all required blanks giving information of the injury. All such requests for benefits will be acted upon by the board at its next regular meeting.

Benefits will be paid only for injuries named in the published schedule.

It is impossible to tell at this time whether the board will be able to continue benefits free to its member schools after this year. If the schools will report their injuries, an answer will be possible at the close of the year.

The board of control expects to call for information on all types of injuries as well as those listed in the schedule for which benefits will be paid.

How the Plan Was Received

As was to be expected, the introduction of the plan provoked much comment among professional educators both within and without the state of Wisconsin. The administrative officers of public schools in Wisconsin voiced strong approval of the plan and numerous inquiries were received from several states. The plan has also been given no little publicity in several publications of state athletic associations. In light of these facts, it is believed that the operation of the plan during the four months, September to December, 1930, will be of particular interest.

Although, obviously, it is impossible to give a report of total registrations, it is evident that between 10,000 and 15,000 high school athletes will be protected by the plan during the school year 1930-31. Up through December 31, 1930, a total of ninety-nine injuries distributed as follows were reported: twenty-seven legs, twenty-three arms and forty-nine collar bones. It is interesting to note that the first eighty-three injuries reported were distributed among the three classes of high schools in the state as follows:

	No. of Injuries	*Amount Paid*
Class A Schools....	19	$ 975
Class B Schools....	35	1,820
Class C Schools....	29	1,560
		$4,355

It is evident that so far the smaller schools have profited more from the plan than have the larger schools.

What future developments will be toward the protection of high school athletes no one can predict. In light of the growing popularity of interscholastic sports at the secondary level, however, it does seem probable that other states will approach a procedure similar to that inaugurated by the Wisconsin Interscholastic Athletic Association. The success or failure of the plan will undoubtedly be viewed with intense interest by those concerned with the administration of public education at the present time.

New Mexico Schools Described in Highway Journal

Education in New Mexico is the subject to which the *New Mexico Highway Journal* has devoted its entire October issue.

"There is a well planned and coordinated system of education in operation in New Mexico—from the one-room school in the mountain fastnesses to the great university at Albuquerque," the foreword says. "This system includes opportunities not only for the child that is perfect physically, but also for the one handicapped by lack of sight or hearing."

The schools that are described include: the public schools; University of New Mexico; New Mexico School for the Deaf; New Mexico State Teachers College; New Mexico Military Institute; New Mexico College of Agriculture and Mechanic Arts; New Mexico School of Mines; Spanish-American Normal School; New Mexico School for the Blind, and the New Mexico Normal University. All of these articles are profusely illustrated.

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Practical School Administration:

Saving Money in the Personnel Budget

By PHILIP C. LOVEJOY, Formerly Assistant Superintendent of Schools, Hamtramck, Mich.

IN THE first article of this series in the February issue of The NATION'S SCHOOLS, three specific first steps were suggested for the public school administrator interested in this problem.

The administrator was urged (1) to study the adopted policies of the board of education or if no policies exist, to initiate steps whereby the board of education will place on record the objectives of public education in its community; (2) to ascertain that all departments of the system are operating in accordance with these policies or at least are pointed in that direction; (3) to make an analysis chart of how money is being spent within the system at the present time. A sample chart was presented on page 98 of the February issue.

Attention was directed to the fact that there was a difference between educational economy and financial economy. The article suggested that in the long run educational economy would result in financial economy. It warned the administrator not to be shortsighted in his endeavor to save money. He must not effect economies of the moment that in the long run will lead to far greater expenditures.

How to Economize

This article will consider the current expense phase of the school budget. Since its largest portion is concerned with personnel, it might be well to consider that topic first. Can we save money in our personnel budget?

Immediately, of course, the answer is "Yes." We can reduce service and thereby eliminate the need for certain personnel, thus saving money. Such a method is not necessarily included in our hypothesis. Naturally we should make a survey to determine the need for all that we are now doing, and if we can discover any particular service that could well be eliminated we should hasten to abandon it. I am thinking of a certain business organization that pays over $2,000 a year to maintain a time clock and the attendant records for 120 employees. Since this organization is practically professional in its service, it would be possible to change the point of view of the staff and save this amount of money.

It was our first thought, however, that it would be possible to save money and still perform all the services now existing in our system. In other words, we are to study to see what readjustments can be made. If the service is essential it should be maintained; if it is nonessential it should be eliminated.

Reduce Turnover in Personnel

Specific attempts that have been made in some centers to eliminate the kindergarten for a semester or more in order to save money have in the long run proved to be costly. Why is it that advocates of economy refer so infrequently to a reduction of service at the upper end of the scale? It would seem that if any such reduction of service were to be made, that the upper end would be the more logical. No such reduction, however, should be made at either end. Rather it is entirely probable that it will be necessary to extend service and at the same time to endeavor to find some means of saving money.

The nursery school is developing rapidly. As in the case of other types of educational activity, its experimental stage is in the hands of private groups, but we may expect shortly a widespread demand that it be added to the public schools. Changes in the economic and social life of the parents will in all probability make this a necessity and, indeed, from the standpoint of social insurance within the democracy, highly desirable and socially economical.

A second means of saving money frequently suggested has been the elimination of teachers at the high end of the salary schedule, and their replacement by younger individuals at the lower end

5000 educators showed us what talking pictures to make

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The educators chosen have worked hand in hand with our talking picture directors and scenarists — long experienced in talking picture production. At their disposal are all the knowledge, equipment and facilities of Western Electric, The Bell Telephone Laboratories and Electrical Research Products. The recording is done by the standard Western Electric Process which is in use by the leading producers of theatrical sound films.

For the presentation of these educational talking pictures, Western Electric portable reproducing apparatus assures results of the same quality as the largest and best equipped city theatres.

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Department of Educational Talking Pictures,

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of the scale. In the natural process of events such substitutions will frequently happen without pressure from authorities. In cases of voluntary resignation it is inevitable that such replacements be made. Whenever this plan of substitution must be utilized, however, it would seem wise for the superintendent to make certain that he is securing the best that the market has to offer.

Inexperienced teachers must, of course, be given positions if they are to obtain experience. It is to be hoped that only candidates of superior ability are permitted to obtain training. Considerable money would be saved if a careful system of guidance were utilized. It would be far better to have the substitution made from graduates of an educational internship which will be referred to later in this series. In any event the substitution must be made on the basis of proficiency rather than on that of financial economy. Too valuable a treasure is being entrusted to administrators for them to experiment further merely for the sake of saving a few dollars now, which may cost many more later.

At any rate let us hope that the day is not far distant when teachers may be retained within the profession for the sake of the oncoming generation. Let us reduce the rather large turnover we now have, which, of course, is expensive.

Of course a tendency to retain teachers within the profession might result in having several married women on the staff. Now marriage is not a crime, nor does it necessarily act as a deterrent to good and efficient teaching. A readjustment of social life may make possible a longer retention of capable teachers, which of course will save money and increase the value of the educational product.

Should Salaries Be Reduced?

A third means of saving money in personnel would be the immediate reduction of all salaries by an arbitrary percentage, say five or ten. While industry itself will probably face a readjustment in salaries, we must be careful not to be stampeded by emotional appeals with reference to teachers' salaries, either for revision downward or for maintaining them as they are. Here is a matter that requires the most careful study. What were the basic principles used in setting up the present salary schedule in any given community? Were they in accordance with the economic laws determining wages? Were these educational wages related in any way to the amount paid to skilled and unskilled labor in the community? Of course basically the wage paid to unskilled labor is determined by the bare costs of existence and the law of supply and demand. If living costs go down and the labor market becomes flooded, of course there will be a reduction in the amount paid to unskilled labor. This does not mean that teachers' wages should automatically be lowered unless scientific principles were involved in setting up their rates of pay initially.

Usually teachers' salaries are the last to rise and also the last to fall. It has been generally admitted that teachers have not been overpaid. Periods subsequent to a war have tended to cause the educational wage curve to advance. It maintains its level depending on the community's evaluation of the services of the teacher coupled with its ability to pay.

What We Are Paid for

Now is the time for the executive to recall the study by Moore of Columbia relative to wages: (1) Wages are an expression of value of service rendered to society; (2) the minimum wage expresses the value of the least competent member of the group; (3) wages tend to increase directly with the value of the service rendered; (4) the difference between wages of groups and the minimum wage of unskilled labor is determined by special ability.

Burgess in his studies, "Trends of School Costs," found that there was slight correlation between the cost of living and teachers' salaries. Moehlman in his "Public School Finance" sets forth the laws of salaries for teachers which seem pertinent enough to this discussion to be quoted:

"Basic relative salaries paid to teachers will tend to vary directly with ability. Initial ability is determined by the amount of training. The absolute salaries paid to teachers will tend to vary directly with the valuation placed by society upon such service.

"The basic salary for any community will tend to be somewhere between the actual value of a teacher's service, conditioned by the law of supply and demand, and the community's evalution of such service and the community's ability to pay.

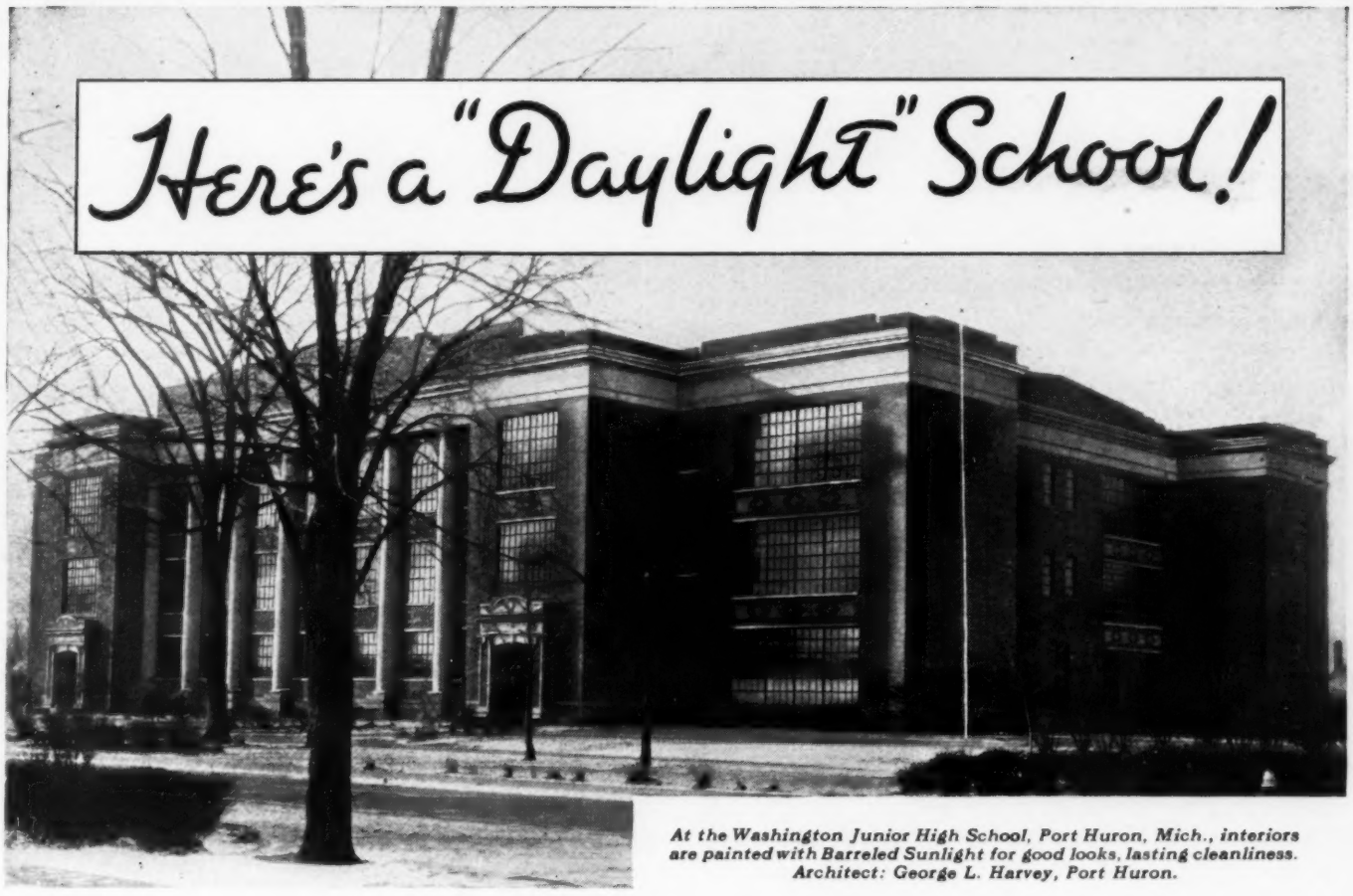
"In general the minimum teacher salary will tend to be above that paid unskilled labor varying directly with the amount of training.

"The maximum salary paid to teachers will tend to be somewhere between the actual value of a teacher's service conditioned by the law of supply and demand, the community's ability to pay and the community's willingness to pay.

"In general the maximum wage will tend to be above that paid to skilled labor, varying directly with the amount of training and efficiency.

"Salaries in general tend to increase directly with the amount of training, insofar as training is an initial measure of teaching efficiency.

Here's a "Daylight" School!



At the Washington Junior High School, Port Huron, Mich., interiors are painted with Barreled Sunlight for good looks, lasting cleanliness. Architect: George L. Harvey, Port Huron.

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"Teachers' salaries will tend to rise rapidly in a period of prosperity following increased returns to labor.

"Teachers' salaries are the last to fall during periods of industrial depression."

Each executive, therefore, must make a detailed study of the wage situation in his community in all lines of work in order to stem off any unjustifiable demand that teachers' wages be reduced. Incidentally, a well planned program of public school relations over the past several years will have served admirably to help the public obtain a true evalution of the services of its teachers.

Up to this point no specific way to save money has been advocated. Rather the discussion has dealt with ways not to save money. It was essential to do this, however, in order to stem the emotionalism that is so rampant. There must be no wholesale slashing of salaries. There must be no wholesale reduction of personnel. Readjustments must be made so that any growth in enrollment can be cared for with the existing or a reduced personnel, but no one should be discharged merely to save a few dollars. This merely aggravates the unemployment problem and transfers the expense from one pocket to the other.

Let us now consider ways of saving money. By saving money we mean actual total absolute savings. Another interpretation would be that the present total amounts might still be allowed to care for the increased enrollment. This would be a saving of money on a per pupil basis but we want to do this and effect an actual additional savings if possible.

Analyzing the Board's Policies

In the article, "Saving Money in the Business of Public Education," in the February issue of this magazine, reference was made to a study of the adopted policies of the board of education. It was suggested that such a policy should be developed if one did not exist. The attention of the executive must be directed to the fact that this policy should be in accord with the best current accepted procedure. In other words, if the policy of the board calls for classes of but 15 pupils and there is a real desire to save money in the community, study should be given to the modification of this policy to the extent that classes of 25 shall be expected. Of course it may be that the community is exceptionally wealthy and that it prefers classes of but 15. A community has a right to set its own policy, provided it is in accordance with state law.

The second step is to analyze the system to make certain that all phases are functioning in accordance with these adopted policies or at least are headed in that direction. There is a surprising disagreement between fact and policy in many systems until such an analysis has been made and readjustments inaugurated.

An example of this type of analysis is offered by Frank Jensen, superintendent of schools, Rockford, Ill. There the policy for class size in the elementary school called for an enrollment of between 35 and 40. Several years ago an analysis of the number of pupils per teacher in the elementary grades was made in October and in February. The October load was 27, while that for February was 28.8. A further study showed that this was due in a large measure to the fact that the duplicate type of organization was not being employed at that time. Consequently, while special teachers were conducting classes in such subjects as music, drawing and physical education, the regular classroom teacher was most frequently idle. To obviate this it was necessary to effect a readjustment whereby classroom teachers assumed a class load more nearly in accordance with policy. The problem of their being idle certain hours of the day will be discussed in a forthcoming issue under the topic of concentration of services.

How Rockford Readjusted Class Loads

Two or three specific examples taken from Mr. Jensen's analysis will indicate how readjustments can be made so that class loads will more nearly accord with policy. In the manual arts department of the elementary schools wide variations were discovered. The number of classes per teacher per week varied from 17 to 25 when 20 would be a full program. One teacher reported 25 classes but the study showed these to be but 22.5 minutes in length, whereas the policy called for classes of 60 minutes. The size of the classes varied from 29 to 3 with a median of 12, when 24 was considered a full and adequate load. Thus the department was but 50 per cent efficient. A solution was effected by combining for this work groups of the same grade from different buildings. Such a readjustment permitted the transfer of two teachers to the high school to fill vacancies caused by resignations there. The resultant saving was the salary of these two teachers or $4,100.

In the household arts department the study revealed that the number of classes varied from 15 to 18 when 20 would have been a full load. The size of the classes varied from 24 to 2 when 24 was a full class. The median class was 11 for the eleven teachers of grade work in this department. Thus again the department was less than 50 per cent efficient. Periods were from 35 to 135 minutes in length. It was revealed that classes were

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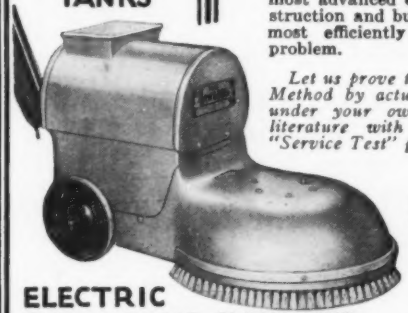

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scheduled in teachers' lunch work and special cooking, which on further analysis developed as a period when one teacher with the help of several pupils prepared the lunch for the other teachers in the same building. It was not felt that this was a part of the instructional load of the teacher. A reduction of one teacher was immediately effected with a saving of $1,150.

In the high school several years ago a study of the teachers' load was taken for one week in the first semester and another week the second semester. The results are indicated as follows:

First semester—number of teachers, 107; average size class, 19.5; student hours taught, 38,334; student hours that should have been taught, 54,064; percentage of efficiency, 71; number of teachers needed, 76.

Second semester—number of teachers, 105; average size class, 20.6; student hours taught, 41,926; student hours that should have been taught, 53,837; percentage of efficiency, 77; number of teachers needed, 80.

These results give a clear indication that Rockford at that time had an oversupply of teachers in the high school. The enrollment for the following September was anticipated as 2,226. On the basis of 25 pupils per teacher there was a justification for but 89 teachers. Since they then had 105 teachers it meant that the high school could be managed with 16 fewer teachers. At an average salary of $1,500, this meant a saving of $24,000.

The foregoing illustrations indicate what is meant by a study of current conditions with a view to re-allocating personnel loads so that they shall more nearly conform to the policy of the board of education.

Other phases of this topic of saving money in the personnel budget of a school district will be discussed in the April issue of The NATION'S SCHOOLS, with considerable space devoted to the principle of concentrating services by type, as well as to various cooperative solutions of the financial problem.

Muncie, Ind., Experiments With Individualized Instruction

Under the direction of John V. Maier, principal, two teachers at the Longfellow School, Muncie, Ind., have undertaken individualized instruction of the pupils.

The Longfellow School, with 40 per cent colored children and 60 per cent children of white laborers, rated lowest in reading of any school in Muncie two years ago. Other subjects were also low. Achievement charts have been in each room since. Great differences of ability were discovered within rooms. During a part of last year the pupils of the fourth, fifth and sixth grades were grouped in three classes according to reading ability. All pupils having below fourth grade reading ability were divided into three remedial classes under primary teachers. This drive resulted in the rating of normal in reading for the school at the close of the year. The public library cooperated. In the fourth grade room were placed a few fifth grade readers, several fourth grade books and a large number of third and second grade books. The same policy was followed at other reading levels. Special attention was also given to arithmetic and it, too, scored normal at the close of the year.

Individualizing Instruction

But for the individualized instruction, Mr. Maier says: "In practice we have done away with the grade sections in a room. We do not have the room divided into two sections, one reciting while the other studies. That set-up hurts or prevents individual work. Our work is carried on by individuals or small groups or committees. Hearing a recitation of the question and answer type is a thing of the past in our fifth and sixth grades and is being replaced in the fourth grade.

"Arithmetic is one of the easiest subjects for individual or small group or committee work. It is difficult to tell briefly how it is done. Mrs. Madaline C. Sites, sixth grade teacher, has experimented with these pupils and has found it the most satisfactory way by far to handle them. This is her second year with the same pupils. Her room is made up of our problem cases. Our age-grade table shows that of the fifty-seven pupils in her room, two boys and eleven girls are of normal age, and twenty-eight boys and sixteen girls are average. This means that 77 per cent of the pupils are over age.

"We have a special class in reading made up of pupils from the fourth grade to the eighth grade who cannot read. We started them a year ago in the primer. This class meets at 11 and 3 o'clock each day. The rest of the time the pupils are in their respective rooms."

Besides the project in individualized instruction, Mr. Maier has evolved a program of usefulness for the low I. Q.'s. Social service agencies are cooperating in the care of the indigent, and the measures taken to ensure pupil cleanliness are not the least interesting feature of the Longfellow handicap race.

Frank Allen is superintendent of the Muncie City Schools.

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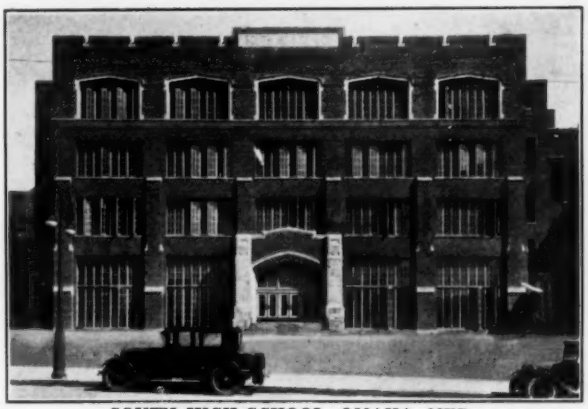

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News of the Month

Teachers Required to Attend Summer School

Periodic attendance at summer school is to be required of the teachers in the public schools of Walden, N. Y., under a new policy adopted by the board of education. The plan will go into effect in modified form this summer and will later be extended. Eventually, teachers will be required to attend summer school at least every five years.

The plan follows an investigation by E. R. Van Kleeck, superintendent of schools, to determine the recency of the staff's professional training. The survey also covered the teachers' professional reading, their educational and professional training and other points. For the present, teachers are only "requested" to attend summer school, and only teachers whose last summer, normal or college training preceded 1925 are affected.

By its action, the board has endorsed the following theses regarding professional growth of teachers, as prepared by Mr. Van Kleeck:

Teachers either grow better or they stagnate.

Added experience alone is not enough improvement for a progressive teacher.

Too much experience, without an occasional "brushing up" is likely to result in stagnation.

There are two parts to developing a high-grade teacher—first, experience, and, second, professional improvement.

How Extra Study Will Help

Advanced professional study without practical teaching experience produces a "lop-sided" teacher. On the other hand, much experience without occasional professional improvement produces a teacher who is equally "lop-sided."

Teachers have little time or energy for systematic, productive study and improvement during the school year. Any such efforts are largely "incidental," which means "accidental," and sometimes means "nonexistent."

Teachers have, however, a wonderful opportunity for professional improvement during six weeks of the annual ten weeks' summer vacation.

It is not unreasonable to expect a teacher to renew her professional youth at least once in every five years by summer school attendance.

Under present conditions especially, teachers should be willing to improve themselves by summer school attendance at least once every five years. Teachers who are not willing to do this should be induced to become willing.

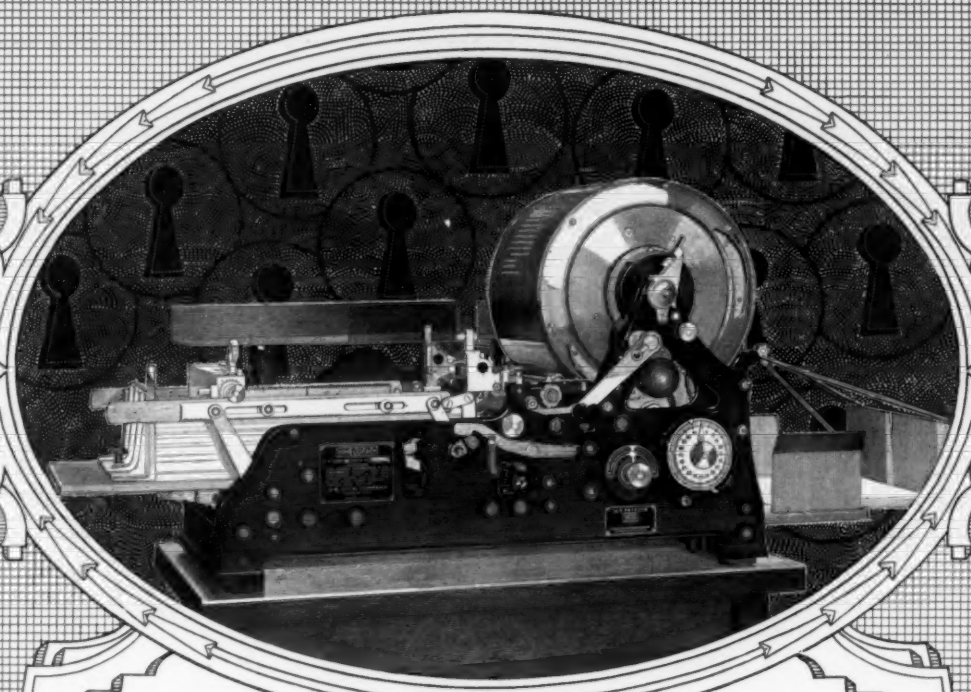
When the plan is in full force, a requirement will replace the present "request," and the date will be advanced from year to year.

The New Susan Miller Dorsey Hall—A Tribute

California's foremost woman educator, Susan Miller Dorsey, is honored by one of California's most famous schools, Scripps College, Claremont, through a new residence hall that is to bear Mrs. Dorsey's name.

In commenting on this tribute to Mrs. Dorsey,

the *Journal of Education* has this to say: Mrs. Dorsey gave the schools of Los Angeles a personal flavor they will never lose, and Scripps College proposes to absorb this personal spirit as the characteristic culture of the institution."



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News of the Month

Child Specialists Hold Three-Day Meeting in Washington

Hundreds of eminent specialists attended the three-day meeting of the section on medical service of the White House Conference on Child Health and Protection in Washington, February 19, 20 and 21. They brought with them searching and exhaustive studies on the medical care of children which were discussed prior to their submission in the form of a report to President Hoover.

The meeting was opened by the chairman of the section, Dr. Samuel McC. Hamill, Philadelphia, who introduced Secretary Ray Lyman Wilbur. Following an address of welcome by Doctor Wilbur, who is chairman of the conference, the meeting was divided into three main groups; one dealing with growth and development, another with prenatal and maternal care and the third with medical care for children.

Topics considered included the definition of growth and development, heredity, the well-born child and the influence of climate and economic factors. Attention was given to prenatal, maternal and early infant care.

This meeting marks the final session of the White House Conference on Child Health and Protection appointed by President Hoover to make a study of the health of the children of the nation and to present the findings for publication and translation into direct action. This meeting was preceded in November, 1930, by a general conference at which time reports were presented by the three other sections, that of public health service and administration, of education and training, and that of the handicapped.

Michigan Schoolmasters to Hold Two-Day Session

The Michigan Schoolmasters' Club will hold its sixty-eighth meeting in Ann Arbor, April 30 and May 1. The keynote of the meeting will be, "What should be stricken from the secondary school curriculum of to-day? What modification should be made in what remains? What should be added?"

A general conference of supervisors and administrators, and college representatives will be held on the afternoon of the first day, and an informal conference of representatives of the high schools with the university instructors in freshmen subjects will be held in the evening.

The keynote address of the second day's program will be given by Dr. Leonard V. Koos, University of Chicago, and the annual convocation address will be given by Dr. James R. Angell, president, Yale University.

Childhood Education Association Will Meet in April

The Association for Childhood Education will meet for the first time under its new name in Cleveland, April 20 to 25. Formerly known as the International Kindergarten Union, the association has expanded to include all primary grades as well as the kindergarten.

Judge Florence Allen of the Ohio Supreme Court will open the convention with a talk on "Keeping Traditions." Mrs. Satis Coleman of Lincoln School who has done so much with creative music will be on the program. Julia Hahn, prominent California educator, will address the convention.

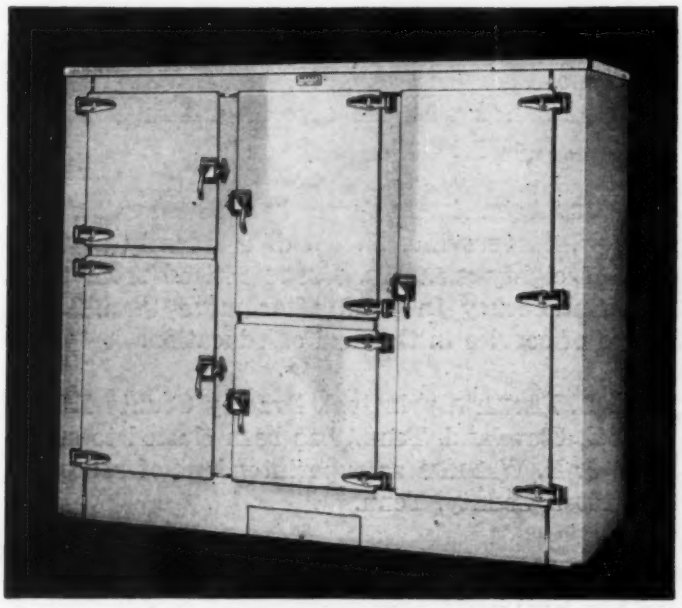
The Council of Childhood Education of Greater Cleveland will be host to the convention. This is an organization composed of several hundred teachers and supervisors in the primary grades of Greater Cleveland. Since the organization includes private and suburban schools as well as the public schools of Cleveland proper, convention delegates will be able to observe a wide variety of situations.

Particular emphasis will be given to school visiting, and classroom work will be displayed for the delegates. Cleveland's curriculum centers, unique in the United States, will be ready for company. These are nine buildings where experimental work is being carried on for all subjects of the curriculum.

An extensive commercial exhibit will be displayed at the public auditorium exhibit hall. Supplies for nursery, kindergarten and primary grades will be shown that will be of interest to parents as well as to teachers of these grades.

All meetings will be held in the music hall of the public auditorium. Margaret Trace, kindergarten supervisor of the Cleveland Public Schools, is local chairman.

New Porcelain Refrigerators By McCRAY



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In the Educational Field

WILLIAM E. GRADY, superintendent of Districts 38 and 39, Brooklyn, N. Y., and DR. E. A. COLLINGAN, principal, Boys High School, Brooklyn, have been elected associate superintendents of schools, New York City. MR. GRADY succeeds DR. W. A. BOYLAN, resigned, and DOCTOR COLLINGAN succeeds DR. GUSTAVE STRAUBENMULLER, retired.

DR. L. W. RILEY, for nearly twenty-five years president, Linfield College, Klamath Falls, Ore., has resigned because of ill health. He will continue to serve, however, until the end of the present school year.

A. A. DODD, principal, Manual Training High School, Kansas City, since 1921, and with the Kansas City school system since 1896, died recently.

HAROLD F. DOW, superintendent of schools, Swampscott, Mass., for the last ten years, has been elected superintendent of schools, Danbury, Conn. MR. DOW has already taken over the duties of his new position.

L. S. MURRAY, superintendent of schools, Aitkin, Minn., has been reelected for another year.

A. C. HAMILTON has resigned as superintendent of schools of Nyack, N. Y. KENNETH MACCALMAN, now principal of the Nyack Junior and Senior High School, will succeed him.

ERNEST E. COLE, principal, Eugene Field School, Chicago, died recently.

DR. HOWARD LINCOLN HODGKINS, dean, George Washington University, Washington, D. C., died recently after a long illness.

RALPH S. BROTHERTON, principal, Harbor Beach, High School, Harbor Beach, Mich., has been named superintendent of schools there for next year. MR. BROTHERTON succeeds ALBERT L. COOK, resigned.

LENA STIVERS WHITE, principal, Dudley Public School, Lexington, Ky., died recently after a three weeks' illness.

W. W. BELL, superintendent of schools, Luray, Kan., has been named superintendent at Downs, Kan., for the coming year. He succeeds A. D. HAAS, resigned.

W. G. WOLFE, superintendent of schools for Guernsey County, Ohio, is the newly elected president of the Ohio Education Association.

THE VERY REV. CHARLES L. GRUNENWALD, formerly superintendent of the Cathedral Schools, St. Cloud, Minn., is the superintendent of the new Franciscan Academy for Girls, Little Falls, Minn.

LOIS GURLER HATCH, principal, Doran School, Glendale, Cal., died recently. MISS HATCH had been connected with the schools of Glendale for the last twenty years.

JAMES AZOR ESTEE, formerly superintendent of schools, Gloversville, N. Y., died recently at the age of eighty-one. MR. ESTEE retired from the superintendency in 1922 after more than fifty years of service in the field of education.

A. L. RANKIN, principal, Bradley County High School, Cleveland, Tenn., has been elected to succeed J. E. WALKER as superintendent of schools, Hamilton County, Tenn.

FREDERICK W. ORTH has been named principal of the University Elementary School, University of California. MR. ORTH succeeds DR. A. J. HAMILTON who resigned.

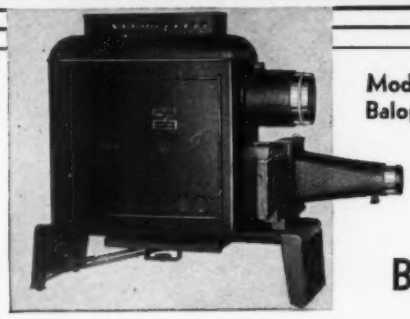
JOHN H. STUBE, district superintendent of schools, Chicago, retired recently. MR. STUBE has been connected with the Chicago schools for thirty-five years as teacher, principal and district superintendent. MR. STUBE was given a banquet by his teachers and principals on the occasion of his retirement.

JOHN H. HUGHES, principal, Reynoldsville, Pa., has recently been appointed superintendent of schools, Jefferson County, Pa.

MARTIN SAMUEL BENTZ, superintendent of schools, Cambria County, Pa., is the newly elected president of the Pennsylvania State Teachers' Association.

J. S. BARRINGTON, formerly principal at Orville, Ohio, is now superintendent of schools, Chatfield, Ohio.

JOHN J. GRIESING has been named to a principalship in the schools of Hazelton, Pa., succeeding HENRY HILL who died recently.



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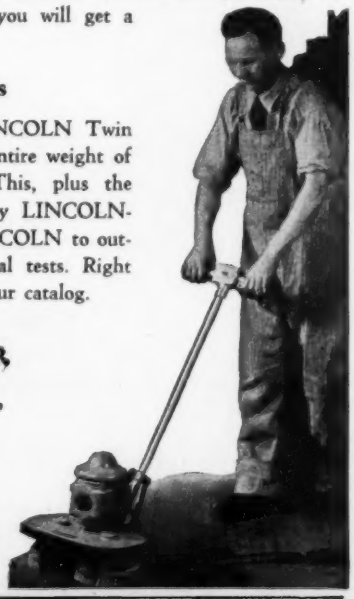
Here Are Facts

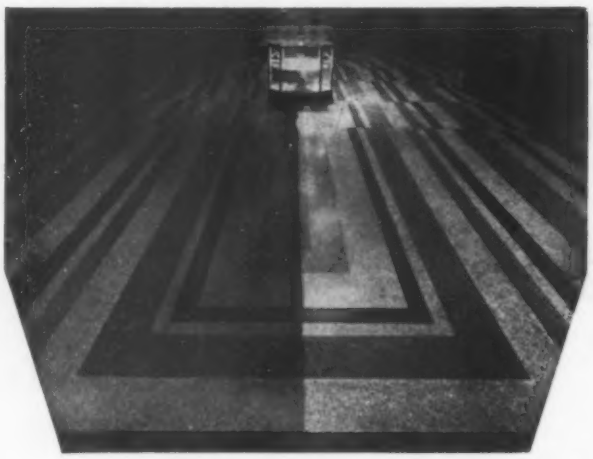
Like all 12 models of the LINCOLN Twin Disc, the new Polisher has the entire weight of the motor on the brushes. This, plus the Twin Disc feature originated by LINCOLN-SCHLUETER, enables the LINCOLN to outperform all competitors in actual tests. Right now is a good time to send for our catalog.



LINCOLN-SCHLUETER
FLOOR-MACHINERY CO., INC.
235 W. Grand Ave.,
Chicago

Branch Offices
149 Church St., New York City
4469 Woodward Ave., Detroit, Mich.
236-38-40 Los Angeles St.,
Los Angeles, Calif.
1222 Mission St., San Francisco, Calif.
1600 Arch Street, Philadelphia, Pa.
1103 Oak Street, Atlanta, Ga.

The LINCOLN Twin Disc
SCRUBS - WAXES - POLISHES



Onex-Seal

For Tile, Marble, Slate and Terrazzo

A new, easily applied liquid that produces a waterproof trackless finish which dries hard and is impervious to dirt. ONEX-SEAL is permanent, withstands varying weather temperature and will not flake off. Two shades—Natural for all floors of white or light colors, Amber for dark colors.

Shine-All

To keep your floors clean—use the famous SHINE-ALL, the perfect, neutral, liquid cleaner for all types of floors. Especially adapted to floors finished with ONEX-SEAL. It cleans, polishes and protects the finish. Unexcelled for use on linoleum, wood, tile, marble, terrazzo and slate surfaces.

Shine-All Sales Company

distributors for

Hillyard Chemical Company

St. Joseph, Mo., U. S. A.

An Applicator Bottle

furnished with our compliments in your own medicine cabinet will soon convince you that

MERCUROCHROME—220 SOLUBLE

(dibrom-oxymercuri-fluorescein)

IS THE

Logical Successor to Tincture of Iodine

FOR

First Aid Prophylactic and General Antiseptic Use

Mercurochrome stains as Iodine does, and it is the stain of Mercurochrome, as it is of Iodine, that shows just where and how effectively the germicide has been applied; it fixes the bactericidal agent in the field for a relatively permanent period which prolongs the asepsis or the sterilizing effect, and it provides for demonstrable penetration into the tissues beneath the superficial surfaces. Inasmuch as Mercurochrome is definitely proved an extremely efficient general antiseptic, it is only reasonable to consider it the successor to Iodine in this field, as it is free from the objectionable features of Iodine, for

MERCUROCHROME DOES NOT IRRITATE, BURN OR INJURE TISSUE

SELL YOURSELVES FIRST

HYNSON, WESTCOTT & DUNNING, INC.

BALTIMORE, MD.

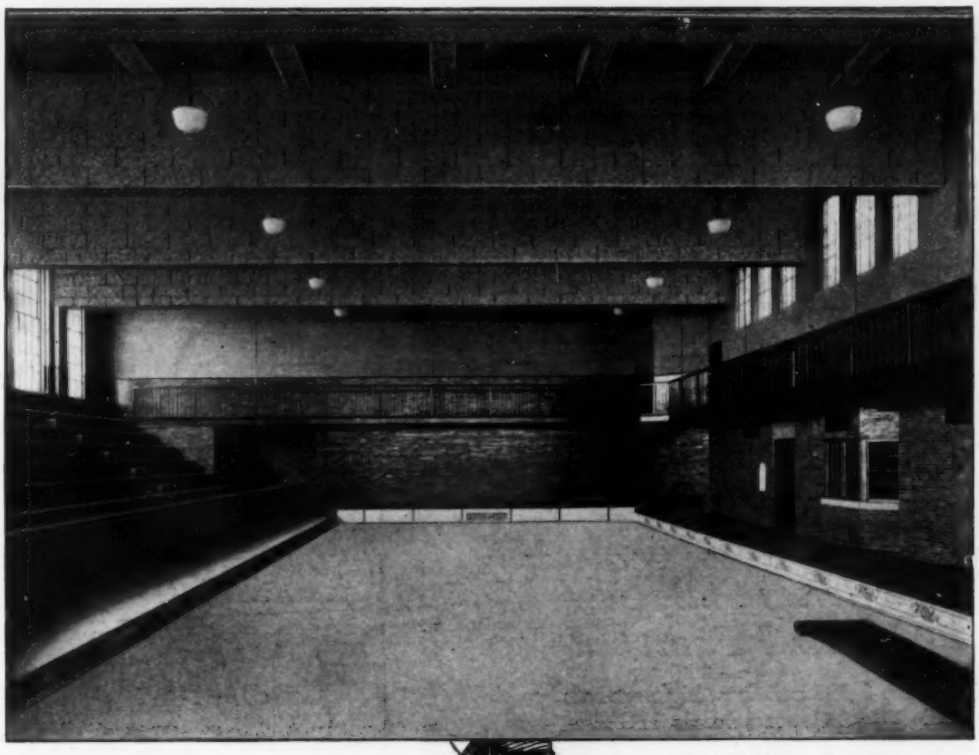
HYNSON, WESTCOTT & DUNNING, INC.
DEPT. N, BALTIMORE, MD.

Please send me Mercurochrome Applicator Bottle for personal use.

Name .....

Business Address .....

Indoors...yet all the quiet charm of the ol' swimming hole



Besides reducing noise in this college natatorium, the pure cork composition of Armstrong's Corkoustic effectively insulates the ceiling. Moisture will not condense to form unsightly streaks. The cost of heating the building is reduced, too, by the insulating properties of Corkoustic.

INDOOR swimming can be as free from noise as the quiet pool of boyhood days. Universities, as well as high schools, are finding that noise can be effectually muffled by a ceiling of Armstrong's Corkoustic. The booming echoes, so typical of swimming pools, are entirely absent. For here the cork panels absorb sound, prevent the annoying reverberations.

In other places, too, Corkoustic will help your school. Classrooms, library, gymnasium, lunchroom—all should be freed from disturbing sounds. The dignified, natural brown of Corkoustic is readily adapted to the many styles of decoration found in these rooms. Colors and designs, if desired, are easily obtained with cold-water paints and stencils.

Write for Free Book and Samples

Let us tell you how your school may be sound quieted at reasonable cost. A copy of the book "Acoustical Correction" which gives full data on Corkoustic will be sent you free. Armstrong Cork & Insulation Co., 939 Concord St., Lancaster, Penna.

Armstrong's (A) Product

To reduce noise and absorb vibration in all types of moving machinery in the modern hospital, we recommend the use of Armstrong's Cork Machinery Isolation. Write for our pamphlet giving data and details on this resilient cork cushion for your equipment.

If you use a bulletin board write for samples and prices of Armstrong's Cork Bulletin and Tack Boards.

Armstrong's CORKOUSTIC

The modern acoustical, insulating treatment

1 OUT OF EVERY 14

New Jersey State Schools Is G&G Fquipped

There are 2,508 colleges, high schools, grade schools and private schools in New Jersey. 176 of these schools are using G&G Telescopic Hoist equipment for the removal of ashes, garbage and rubbish. One out of every 25 schools in New York State, one out of every 27 schools in Massachusetts, and *one out of every nine* schools in the District of Columbia uses G&G Telescopic Hoist equipment.

FOR REMOVING ASHES, GARBAGE, RUBBISH

G&G Telescopic Hoist Equipment, both electric and hand power, is designed to meet the need for the rapid, safe and economical removal of ashes, rubbish and garbage from buildings of every description. In the school field, its positive safety features have extended its uses into 44 States.

Write for illustrated catalog.

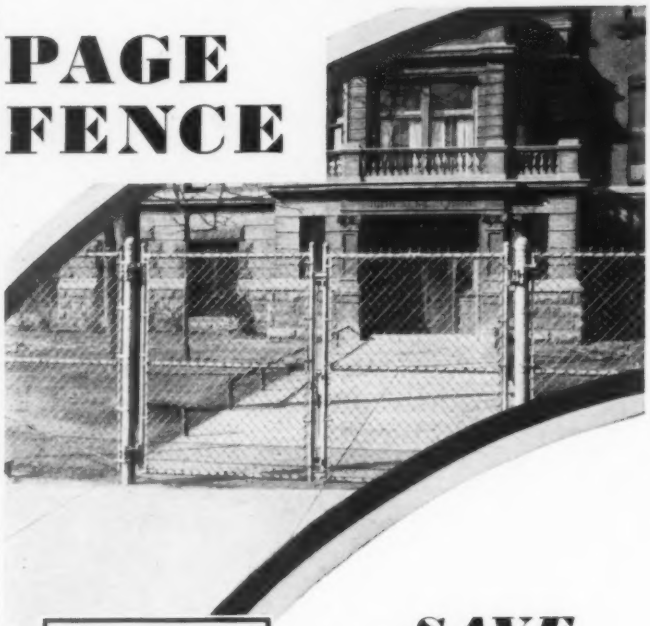
GILLIS & GEOGHEGAN

65 Years of Service

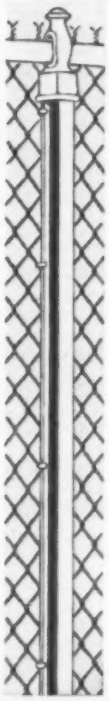
523 West Broadway New York

the G&G ELECTRIC Telescopic Hoist

PAGE FENCE



. . . SAVE by ordering Page Fence in the first place



SPEND maintenance money, not in fence repairs, but in beautifying the grounds and protecting the "little tots" inside. Put in a PAGE Fence once and for all and stop upkeep extravagance.

Where initial expense is a considerable item, boundaries may well be guarded with PAGE Chain Link Fence to last many years. For gates and the fence line most in view, use PAGE in Ornamental Wrought Iron. There are many beautiful patterns in this fence everlasting.

To offset different atmospheric conditions, PAGE Fence comes in four fine metals—

1. **PAGE ALCOA ALUMINUM**
2. **PAGE ARMCO INGOT IRON**
3. **PAGE COPPER-BEARING STEEL**
4. **PAGE ORNAMENTAL WROUGHT IRON**

PAGE H-Beam Line Posts of hot galvanized high carbon steel offer distinct advantages, but tubular posts are furnished where preferred.

76 Service Plants erect PAGE Fence everywhere. Write for name and address of Plant in your locality. Complete descriptive literature on request. No obligation. Address Page Fence Association, 520 North Michigan Avenue, Dept. E65, Chicago, Illinois.

America's first — since PAGE STEEL AND WIRE QUALITY PRODUCTS *wire fence 1883*

PAGE

nation-wide service through 76 service plants

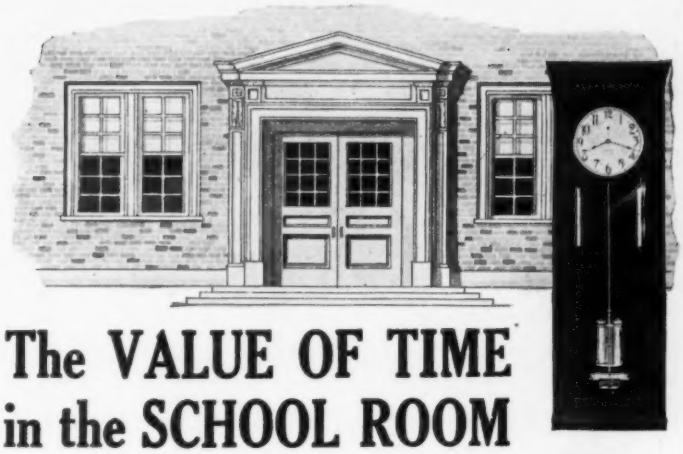
ARMCO

Fence of Armco Ingot Iron fabric is exclusive with Page

FENCE

Page Fence is a Product of The Page Steel & Wire Co., an Associate Company of American Chain Co., Inc. ACCO

CHAIN LINK OR ORNAMENTAL WROUGHT IRON



The VALUE OF TIME in the SCHOOL ROOM

THE losses of instruction time accumulated annually in schools not properly provided with automatic timing and signaling equipment is of astonishing magnitude when analyzed.

It costs the community approximately twelve cents an hour for the instruction time of one child in grammar school. Every minute of time wasted in confusion and irregularity increases the dissipation of operating funds and in turn lowers the efficiency of the school as a whole. This item, in terms of the sole objective to which the investment of public funds is directed, is a serious matter for the school executive.

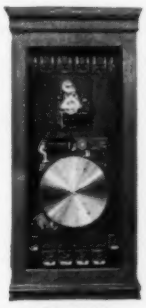
The introduction of International Supervised Time Control has furnished educational executives with an instrument to control time efficiently in their schools. What it saves, through coordination and precision control of study routine, more than pays for its cost.

There is an International School Specialist in your vicinity who is equipped to discuss any phase of this important question. Send for him today.

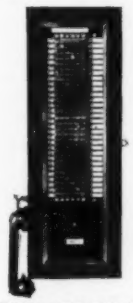
An interesting bulletin on Supervised Time Control in the School is just off the press. A copy will be mailed to you immediately upon your request.

CLASS ROOM SECONDARY CLOCK

CORRIDOR GONG



PROGRAM CONTROL CABINET



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INTERNATIONAL SUPERVISED

INTERNATIONAL BUSINESS MACHINES CORPORATION

International Time Recorders and Electric Time Systems
International Electric Tabulating and Accounting Machines
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Dayton Moneyweight Scales and Store Equipment

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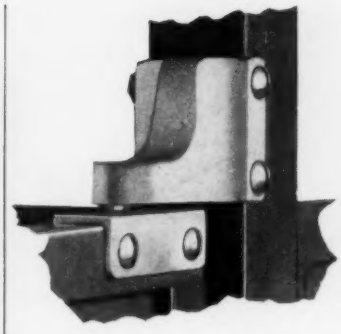
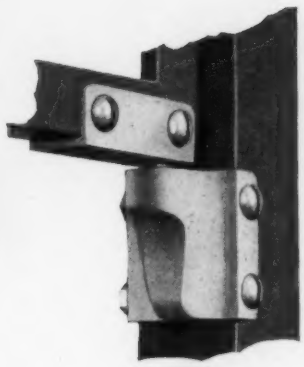
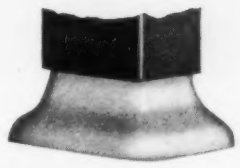
Branch Offices and Service Stations in All Principal Cities





New Type Hinges



Mills Famous Internal Shoe

Features Found Only in Mills Metal Toilet Partitions

Always in the vanguard of advanced design Mills Metal Toilet Partitions again offer improvements in design and construction—improvements that mean lower costs and longer life.

New Mills Type Hinges. An entirely new conception of toilet partition hinges. Only two parts and these are through-bolted to both door and post. No cams, setscrews, rollers, lock-nuts or other parts—nothing to get out of order. Easy to keep clean, simple to adjust to allow door to come to rest at any desired position. Made of aluminum alloy.

Mills Famous Internal Shoe. A valuable feature. Shoe inside the post so that moisture positively cannot lodge and cause failure. Shoe attached to the floor by means of an expansion bolt inside the shoe. Perfectly smooth surface to the floor and provides a 2-in. adjustment for uneven floors. No other toilet partition has a shoe like this.

These and other exclusive features make the Mills Metal Toilet Partition the outstanding value in the field. Write for descriptive literature.

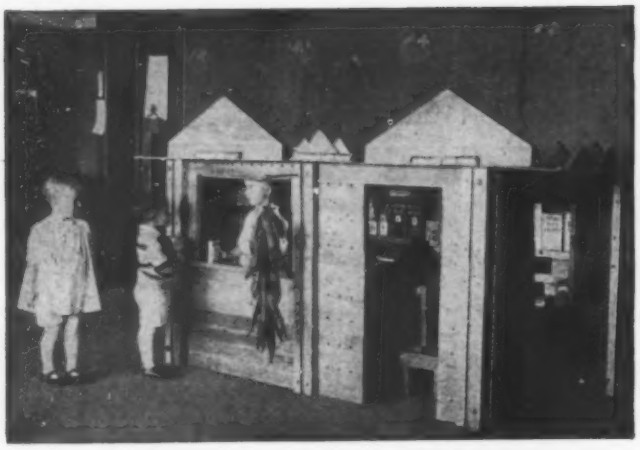
THE MILLS COMPANY

Manufacturers of a complete line of toilet partitions and interchangeable partitions for office and factory.

905 Wayside Road
Cleveland, Ohio

Representatives in All Principal Cities

MILLS METAL TOILET PARTITIONS



HAPPY BUILDERS
Utilize the Play Instinct

CHILDREN take untiring joy in these remarkably flexible project blocks. Kindergarten days become happy and profitable. Parents note their children's progress with delight —teachers find their work lightened.

Happy Builders "fit" because they grew out of actual kindergarten experience. Schools where they are in use endorse them highly. Three wonderful, thrillful sets.

Write for Catalog "N"

Appleton Wood Products Company
APPLETON, WISCONSIN

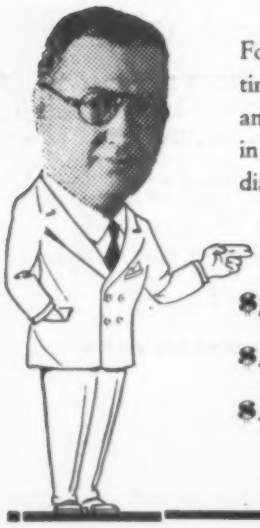
Hotel Hollenden

THEO. DeWITT, *Vice Pres. and Gen. Mgr.*

CLEVELAND

announces

Revised Rates

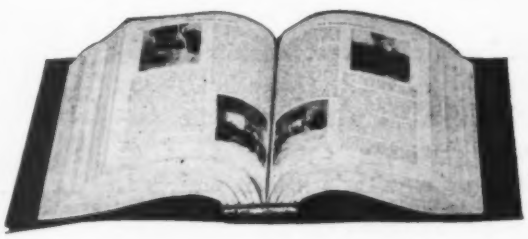


Following the trend of the times, Cleveland's leading hotel announce the following changes in room rates—effective immediately.

ALL FORMER		
$3.50	ROOMS NOW	$3.00
$4.00	ROOMS NOW	$3.50
$4.50	ROOMS NOW	$4.00

4-Station Selective Radio Now Being Installed in Every Hotel Hollenden Room

An Excellent Binder for Your Copies of *The* NATION'S SCHOOLS



THE above binder illustrated holds two complete volumes of The NATION'S SCHOOLS — twelve issues. It is durably made of black imitation leather with title stamped in gold. Copies of the publication can be inserted as received. Thus the binder serves both as a convenient file and as a permanent reference volume for your shelves.

These binders are offered at $1.50 each. Send your order to us and we will see that it is promptly filled.

The Nation's Schools Publishing Co.
919 NORTH MICHIGAN
CHICAGO

For 31 Years

John T. Fairhurst has been designing, improving and perfecting school wardrobes and partitions, and here is a school wardrobe bearing his name:

The FAIRHURST School Wardrobe

Flush door, with slate blackboard and chalk rails, wardrobes in the new Garden Street School, Stratford, Conn. F. H. Beckwith, Architect.

This shows the three wardrobes open. Blackboards fully protected. Bins on shelves in accordance with specifications for this particular job. (Where blackboards are used on wardrobe doors, latches are provided to hold doors firm.)

THE design of these wardrobes is unique. The result of 31 years of tireless effort and practical work on the part of Mr. John T. Fairhurst is this perfect wardrobe.

Disappearing doors leave aisle clear. Full width opening provides easy access to hooks. Doors are rigid when closed. No track or slot on floor to collect dust. No obstructions to trip over. All wardrobes furnished complete, including hooks or hangers. Settling of building does not affect the operation of the doors.

PARK, WINTON & TRUE CO.

101 Park Avenue, New York

1855 *Factory: Addison, New York* **1931**

WEISALLOY

ALUMINUM ALLOY COMPARTMENTS

Rust Proof compartments for toilets, showers and dressing rooms with all the advantages of Weis construction are now available. WEISALLOY is not an experiment but a guaranteed product. Gauges, tempers and finishes of all raw materials have been carefully selected by tests. Both panel and flush designs have been fully developed; production methods have been perfected and a corps of workers has been thoroughly trained in the fabrication of these raw materials. More than fifty actual service installations have been made and observed closely over a period of years. Schools, hospitals, natatoriums, public institutions, and the like have been the proving ground for WEISALLOY.

WEISALLOY is available in both flush and panel type construction. We shall be glad to send complete information to school authorities who are interested in the application of this new material to their problems. Results from actual installations are available for your consideration.

THE HENRY WEIS MFG. CO., INC.

ELKHART, INDIANA

Scenery

ASBESTOS CURTAINS
VELOUR CURTAINS
and
Stage scenery for your Auditorium Stage

Twenty years of experience in equipping High Schools has placed us in a position to know the particular requirements for your stage.

Write us for further information or request call from our representative

Twin City Scenic Company

2819 Nicollet Ave., Minneapolis, Minn.
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About washroom sanitation—

THE importance of clean, sanitary school washrooms has long been recognized. That is why, in every school building, thousands of dollars are invested in equipping large, bright washrooms with porcelain fixtures, walls of marble and enamel and floors of tile, rubber or composition.

Yet, even the best and most expensive equipment will not remain sanitary without regular, thorough cleaning with an effective cleaning material.

In schools everywhere Oakite is used exclusively for washroom cleaning. The speed and thoroughness with which this remarkable material removes dirt and makes fixtures sparkle ... the time it saves and the hard work it eliminates . . . assure absolute cleanliness at lower cost.

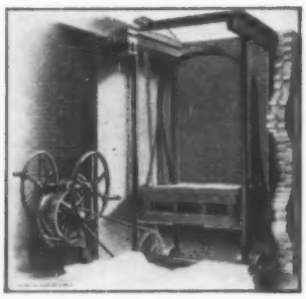
Ask our nearest Service Man to call and show you what Oakite can do. No obligation.

Oakite Service Men, cleaning specialists, are located in the leading industrial centers of U. S. and Canada

Manufactured only by
OAKITE PRODUCTS, INC., 28D Thames Street, NEW YORK, N. Y.

OAKITE
TRADE MARK REG. U.S. PAT. OFF.
Industrial Cleaning Materials and Methods

SEDGWICK
Dumb Waiters - Elevators
FOR SCHOOLS



THIS SIDEWALK ELEVATOR *for*

the Safe, Economical handling of
BOOKS—STATIONERY—FURNITURE—ASHES

Loads of 500 lbs., 1,000 lbs. and even more can be quickly and safely handled with a Sedgwick Sidewalk Elevator. Operated by hand with surprisingly little effort, costs comparatively little to install, and there being no current consumption the cost of operation and upkeep is negligible.

Consult our School Service Department. We will gladly submit recommendations to meet your needs.

SEDGWICK MACHINE WORKS
165 West 15th Street, New York, N. Y.

HEALTH COMES FIRST

That is the decision of every institution installing Rundle-Spence drinking fountains . . . and they arrive at their decision rightfully.

First, because the sanitary features of an R-S fountain place it in a class by itself; and secondly, because, without exception the R-S fountain prevents all users from touching their lips to the jet or nozzle.

Before you decide on the type of drinking fountain to install, write for the R-S catalog. Colors are available for any color scheme.

RUNDLE-SPENCE MFG. CO.
438 No. Fourth St. Milwaukee, Wisconsin

RUNDLE-SPENCE

LIPS CAN NOT TOUCH THE R-S NOZZLE

COMBINED WOOD AND STEEL
Stronger Than Any Other Chair Made!

SOLID KUMFORT AND PRESS-TOE LOCK
FOLDING CHAIRS
for Every Purpose!

Ideal for School Auditoriums and Classrooms. Splendid Appearance. *Finest Quality Throughout.* Outlast and Outperform Any All Wood or All Steel Chair Made. *Write for Folder. Also Ask About Our* Tab-L-Arm Folding Classroom Chairs.

LOUIS RASTETTER & SONS CO.
1404 WALL ST., FORT WAYNE, IND.

Modern Schools Demand
SOUND-PROOF
Rooms!

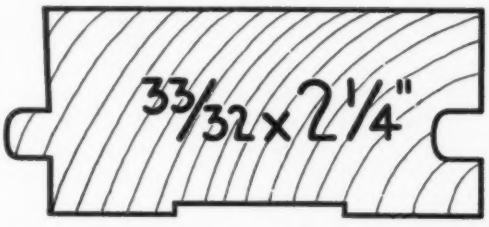
When you close the door of a classroom, all foreign noise is instantly eliminated and the pupil can concentrate one hundred per cent, protected from the noise that comes through ordinary doors.

Modern schools have adopted the *Hamlin Sound-Proof, Edge-Tight Door* as standard equipment. It deadens sound, prevents draft, open cracks or crevices and the room is as quiet as human ingenuity can make it.

Write for the facts on this modern Hamlin method of sound-deadening and learn how easily this scientific method can be applied in your school.

HAMLIN
SOUND-PROOF DOORS
and folding partitions
IRVING HAMLIN, Manufacturer
1501 Lincoln St., Evanston, Ill.

MAPLE FLOORING
FOR SCHOOLS



The above flooring (illustration is actual size) meets all the requirements for a SUPERIOR SCHOOL FLOORING that will withstand the hard usage to which it is exposed by children's feet.

All ROBBINS FLOORING is seasoned in the open air and then mechanically dried, insuring toughness and long life.

Specify ROBBINS FLOORING
FOR ALL SCHOOL PURPOSES

ROBBINS FLOORING CO.
RHINELANDER
WIS.

PROVED... the Superiority of

The unusual strength of the New Witt Can is due to the use of highest quality, special analysis steel, improved design of corrugations, and many other exclusive features.

WITT
BETTER
CANS

THESE *better* cans, in recent tests conducted by the Pittsburgh Testing Laboratory, withstood tremendous pressures, while seven others, each a well-known make, were crushed out of shape. Witt superiority—the ability of the New Witt Can to outlast all others—is thus again convincingly demonstrated.

THE WITT CORNICE CO.
2120 WINCHELL AVENUE
CINCINNATI :: OHIO

CINOPLATE
BLACKBOARDS

SAVE { First Cost / Installation / Maintenance
on

Valleyco Blackboards are first choice in schools, lecture rooms and industrial institutions because of the quality of the blackboards and the savings in every direction. And they're first because they last!

Economical
Permanent
Moisture-Proof
Easily Installed
Guaranteed

CINOPLATE
Grainless; knotless; waterproof. Specially treated wood.

CINOBESTOS
Long asbestos fibre; and Portland cement.

CINOBOARD
Specially prepared wood fibre; kiln cured.

Write for full details.

THE VALLEYCO CO., Inc.
116-118 E. Water St. Cincinnati, O.

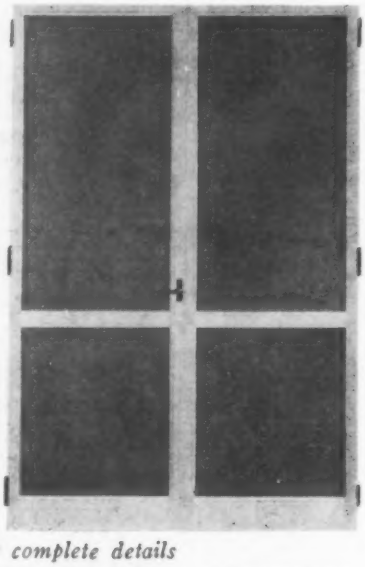
Wherever the waste system must handle any corrosive liquids . . . install

DURIRON ACID PROOF DRAIN-PIPE

. . . as permanent insurance against costly leakage . . . Write for full particulars

THE DURIRON COMPANY, INC.
DAYTON, OHIO

CINMANCO
Hollow Steel, Bronze and Aluminum
SCREEN DOORS

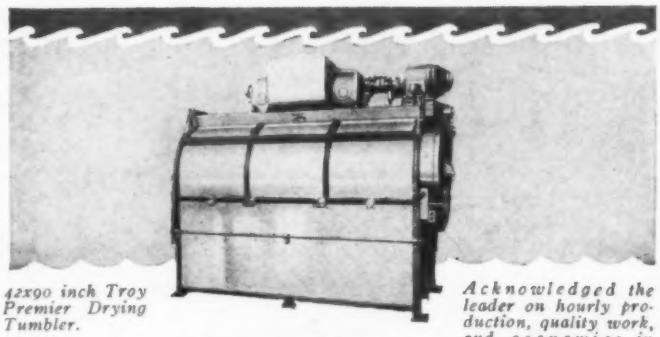


CINMANCO All Metal Screens are permanent installations. Constructed of 14 gauge seamless tubes and securely welded at corners to make practically a one-piece door—pleasing in appearance, rigidly built, and always perfect fitting. Especially adapted for casement doors.

CINMANCO doors are furnished with 16 mesh bronze wire cloth. Equipped with special bronze locks, hinges, and flush bolts. Can be supplied in any color or grained finish to match the woodwork.

Write for complete details

THE CINCINNATI MANUFACTURING COMPANY
1638 Gest St. Cincinnati, Ohio



42x90 inch Troy Premier Drying Tumbler.

Acknowledged the leader on hourly production, quality work, and economies in power, floor space and upkeep.

6600

What this means? Just this. In the 42 x 90 inch Troy Premier Drying Tumbler, as much as 6600 cu. ft. of air are passed through the clothes EVERY minute.

Volumes of mild tempered air, driving moisture out of every pore and fibre, float the clothes dry. No baking, no scorching, no heat wrinkles. Premier dried garments are just as nice and sweet-smelling as if they were dried by balmy breezes in summer sunshine.

Write for literature that quotes facts, figures.

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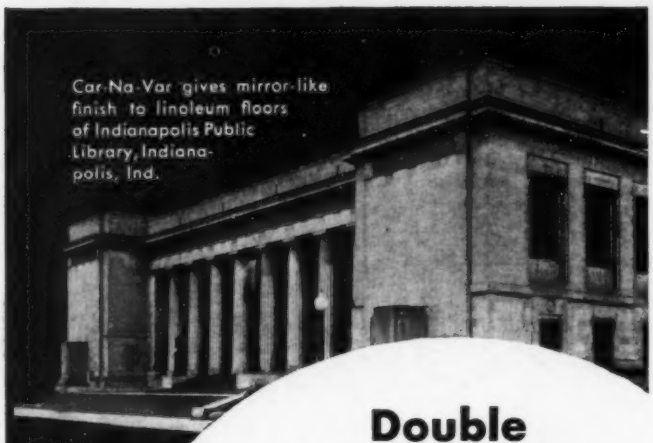
Chicago - New York City - San Francisco - Seattle - Boston - Los Angeles
Factories: East Moline, Ill., U. S. A.
J. ARMSTRONG & CO., Ltd., European Agents; London, Berlin, Zurich.

TROY
LAUNDRY MACHINERY
Since 1879—The World's Pioneer Manufacturer of Laundry Machinery



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CAR-NA-VAR
TRADE MARK REG. U.S. PAT. OFF.
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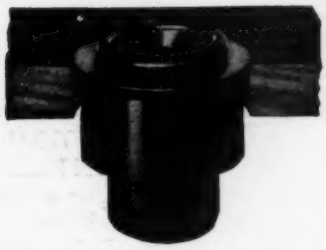

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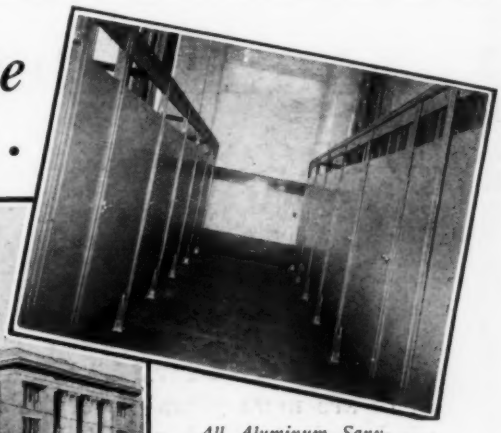

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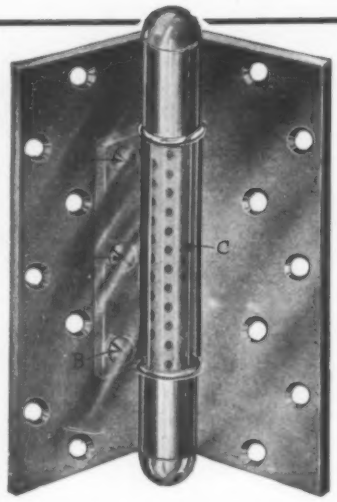

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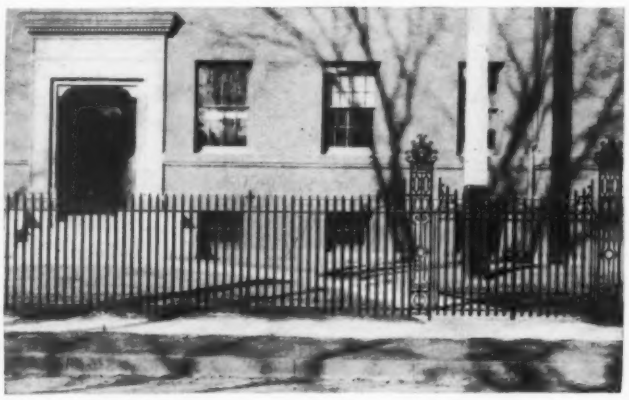

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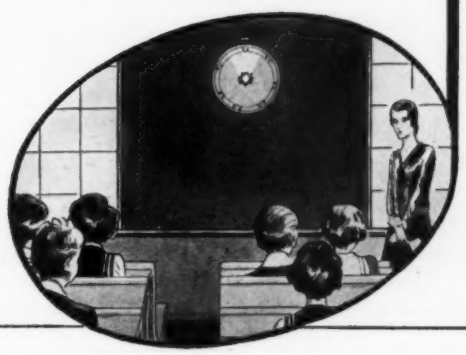

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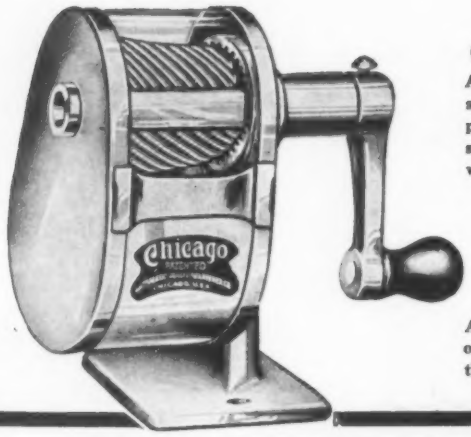

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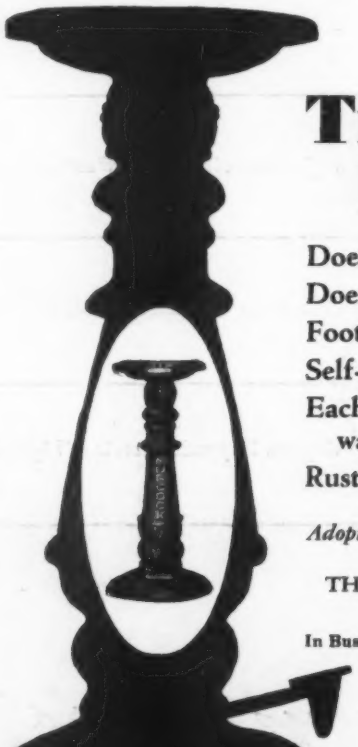

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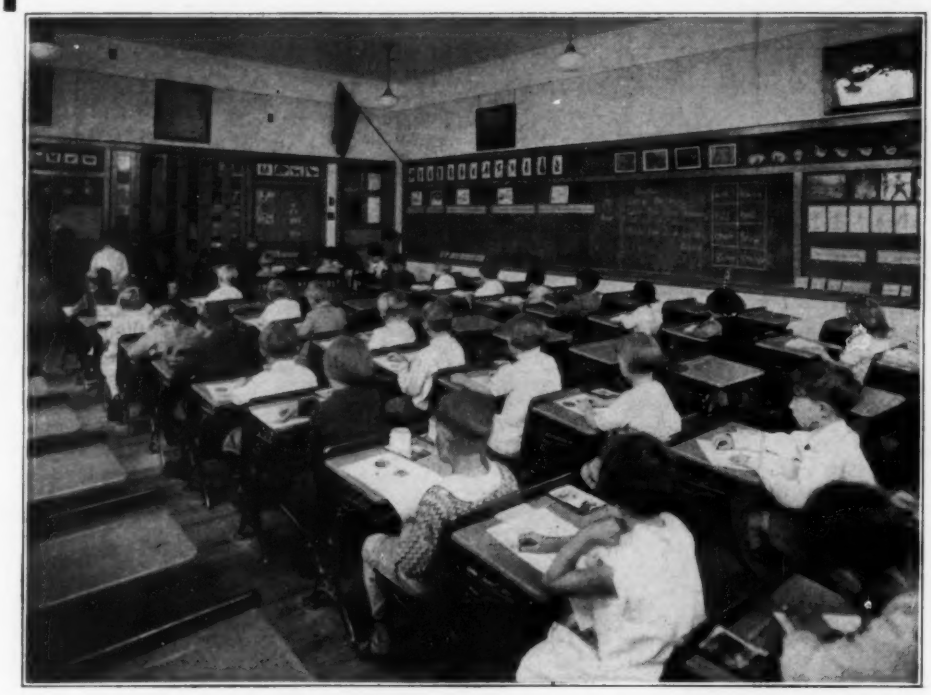

THE oils and gums which enter into the composition of paints and varnishes are affected by the air. Such surfaces are likely to crack, peel, grow dull. Semdac Liquid Gloss is the preservative and cleaner ideally suited to the school. Applied to painted and varnished areas it restores the original luster, safeguards against weathering action and protects against the marks and smudges of the careless child.

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Schools everywhere are enthusiastic in their praise of Semdac Liquid Gloss. Its universal application brings economy and cuts down costs. While ordinary materials SCOUR the surface, Semdac PRESERVES it.

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THIS practical desk will interest those educators who believe in compact, flexible, economical classroom seating. Because it combines desk and chair in one, this unit increases classroom capacity. It entails no expensive installation, is easily moved about for rearrangement of classes or for sweeping and cleaning. The top is purposely made of solid wood, instead of veneer, to prevent marring and chipping. Note how the standard which supports the desk shelf is curved out to permit more leg freedom and induce better posture. In every respect this Movable Chair Desk meets the most rigid requirements of modern classrooms. If desired, a roomy storage drawer, which fits under the seat, may be secured. Inkwells for the desk top are also available. Ask your nearest H-W Sales Office for detailed information on this and other modern school desks.

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HEYWOOD-WAKEFIELD

Proof against INFECTION -TROUBLE -MISCHIEF

Not one improvement, but many improvements dictated the design of the new Crane drinking fountain; improvements which eliminate any chance of infection being spread through it . . . which minimizes mechanical troubles . . . and which render it proof against mischief. These improvements manifest themselves in the following changes:

1 ***Raised integral angle stream bubbler and flow control:*** The location of the bubbler above the rim of the receptor prevents contamination of the water supply even when the outlet is clogged and the receptor overflows. There is no chance for the water supply to be contaminated in the valve as the flow control is water-tight. These two points combine with the twice-fired vitreous china of which the bowl is made to provide a unit which really protects health.

2 ***Lip guard and hood:*** The lip guard is constructed to prevent the lips touching the china spout. The spout is protected by a hood which prevents saliva or foreign matter falling back into it.

3 ***Non-squirting spout:*** The china spout is arranged with non-squirting feature so that fingers cannot be placed directly on supply spout.

4 ***Automatic stream regulator:*** Uniform height drinking stream is maintained on all pressures to which plumbing fixtures are ordinarily subjected.

5 ***No water wasted:*** There is no waste of water on any pressure. All water entering the regulator goes through to the bubbler.

6 ***Operating range:*** A satisfying drinking stream can be obtained on pressures down to 5 pounds. This regulator has integral regulating screw and can be adjusted under pressure.

C9076-A Creta drinking fountain with "CRANE AUTOMATIC STEAM REGULATOR"

7 ***Easy repair:*** Entire operating parts can be removed without taking regulator out of line.

These improvements in sanitation have caused this fountain to be accepted by the Chicago Department of Health and the American Public Health Association. The improvements in mechanical design have caused it to strike a new low level for installation and operation costs. You can see this fountain at the Crane Exhibit Rooms, or learn full details concerning it by writing Crane Co.

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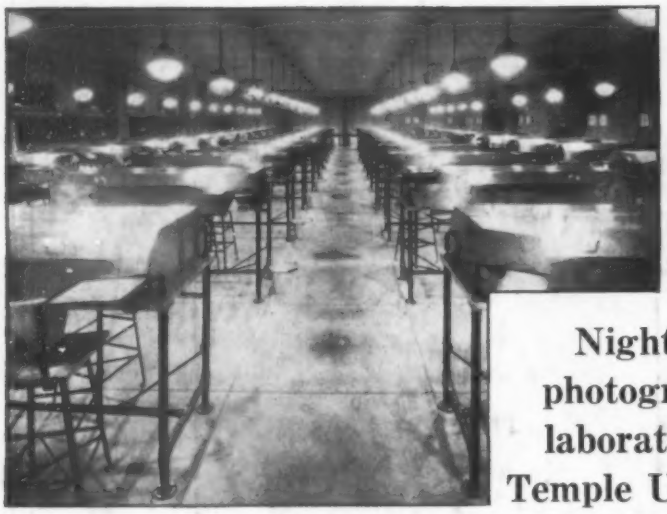

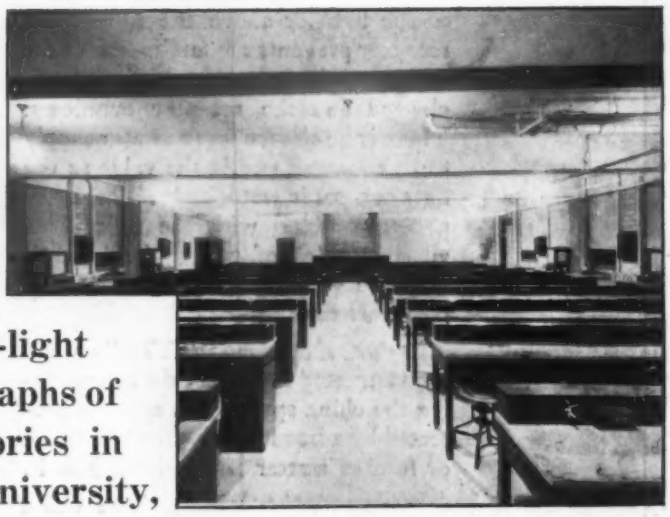

Night-light photographs of laboratories in Temple University, Philadelphia

THE illustrations above are *not* retouched; they are photographed without flashlight, by artificial lighting only. Notice the even illumination and the absence of deep shadows. It is evident that the visibility in these rooms is exceptionally good.

The cost of the installation and particularly the maintenance and operating costs, are low. Holophane Reflector-Refractors are used throughout both interiors.

This is a striking example of the results which can be obtained through "Planned Lighting with Holophane Specifics."

The Holophane Company makes a complete line of Specific Lighting Units, each of which is a specific answer to some particular lighting problem. Our engineers will be glad to confer with you—personally or by correspondence—as to how Holophane Specifics can effect better lighting in any school or college.

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